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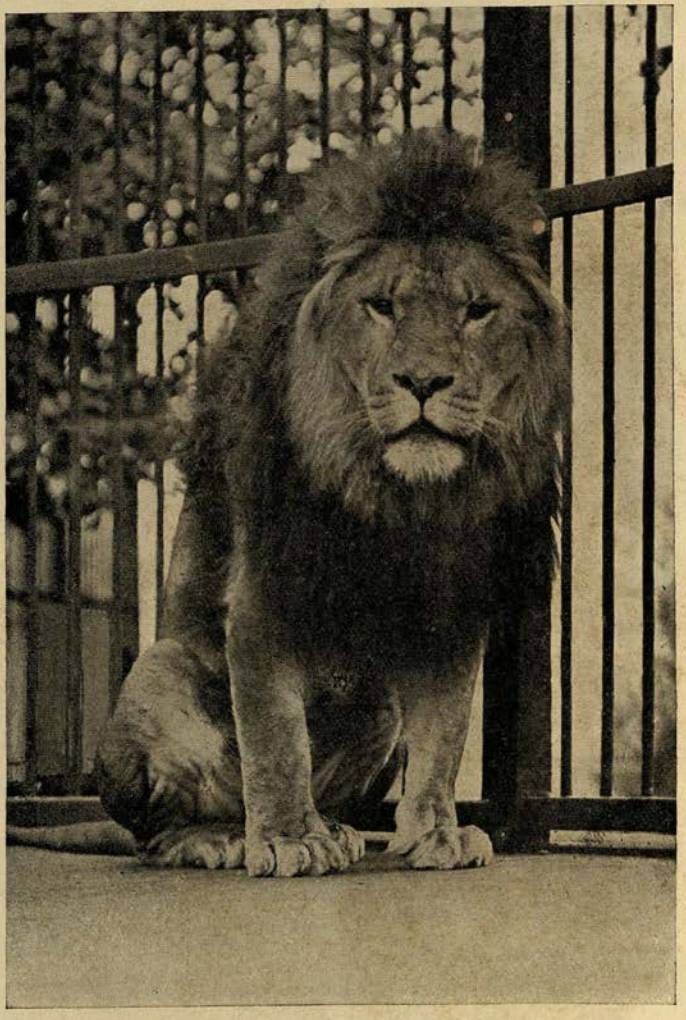

Foster's Lion

OF DISTINGUISHED ANIMALS

BY H. PERRY ROBINSON

ILLUSTRATED WITH PHOTOGRAPHS FROM LIFE

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PUBLISHED BY WILLIAM HEINEMANN

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To

JOHN BRADSTREET ROBINSON

PREFACE.

PORTIONS of all the following chapters appeared in *The Times* at intervals during the year 1909, under the title of "Studies in the Zoological Gardens"; and they are now published, with amendment and addition, by the courtesy of The Times Publishing Company.

In sketches of such a nature it is impossible, when quoting from authorities, to mention all the sources from which one draws without frequent interruption of the thread of ideas and constant annoyance to the reader. At the end of the volume will be found a list of the books from which quotation is made, and to such of the authors as are still within the reach of gratitude I wish to make acknowledgment of my indebtedness.

That the following pages have many shortcomings I am well aware. Some of them I should have hoped to remedy if the work of preparation for the press had been done under less serious disadvantages than are indicated by the address below.

H. P. R.

INDIAN OCEAN,

ON BOARD P. & O. S.S. *Moldavia*.

CONTENTS

		PAGE
I.	OF LIONS	1
II.	OF TIGERS	18
III.	OF BEARS	36
IV.	OF WOLVES AND DOGS	55
V.	OF ELEPHANTS	77
VI.	OF RHINOCEROSES AND HIPPOPOTAMI	93
VII.	OF BUFFALOES	110
VIII.	OF GORILLAS	124
IX.	OF THE MONKEY FOLK	141
X.	OF CROCODILES	157
XI.	OF SNAKES	171
XII.	OF EAGLES	199
XIII.	OF OWLS	212
XIV.	OF OSTRICHES	223

LIST OF ILLUSTRATIONS

FOSTER'S LION	FRONTISPIECE*	
ROWLAND WARD'S LION	*Facing page*	10‡
FOSTER'S LION		10*
SIBERIAN TIGER		18*
SUMATRAN TIGER		22*
POLAR BEAR		36*
MR. RINGER'S HAIRY-EARED BEAR		40‡
SLOTH BEAR		40*
ISABELLINE BEAR		50‡
GRIZZLY BEAR		50‡
"BLANCA," TIMBER WOLF		56*
PRAIRIE WOLF OR COYOTE		56‡
CAPE HUNTING DOG		66*
DINGO		66*
BLACK-BACKED JACKAL		70*
COMMON FOX		74*
SILVER-BACK FOX		74*
COYOTE		74*
AFRICAN ELEPHANT		78*
INDIAN ELEPHANT		82†
INDIAN ELEPHANT		86*
RHINOCEROS (INDIA), PRINCE OF WALES' COLLECTION		94†
AFRICAN RHINOCEROS		98*
RHINOCEROS		102*
DWARF BUFFALO		110‡
BISON		114*
TWO BABY ANTHROPOID APES		124†
JAPANESE APES		126*
SPIDER MONKEY		126*

LIST OF ILLUSTRATIONS

"SANDY," ORANG	*Facing page*	128*
"SALLY," CHIMPANZEE		128*
"JACKIE," CHIMPANZEE		132*
"MICKIE," CHIMPANZEE		132*
HOOLOCK GIBBON		136†
HAMLYN'S MANGABEY		142*
CHACMA BABOON		142‡
CHACMA BABOON		146*
MANDRILL		150*
GROUP OF CROCODILES AND ALLIGATORS		158*
ROYAL PYTHON		172†
RATTLESNAKE		172*
FER DE LANCE, RAT-TAILED SERPENT		190*
PUFF-ADDER		190*
COBRA		194*
MONKEY-EATING EAGLE		200‡
GRIFFON VULTURES		204*
MARTIAL HAWK EAGLE		206*
CONDOR		208*
PEL'S OWL		212*
MILKY EAGLE OWL		212*
SNOWY OWL		216*
BARN OWL		216*
GREAT EAGLE OWL		220*
BARRED OWL		220*
OSTRICH		224*
SOMALI OSTRICH, AFRICA		226‡

The illustrations marked with an asterisk are from photographs by Mr. W. E. Gray; those with a † by W. P. Dando, F.Z.S.; and with a ‡ by W. S. Berridge, F.Z.S.

ERRATUM.

Page 79, line 8: *for* "Mr. Nuemann" *read* "Mr. Neumann."

OF DISTINGUISHED ANIMALS.

I.—Of Lions.

There is diversity of opinion as to whether a lion looks best at large or in a cage. Some writers declare that those who only know the king of beasts behind bars can form no notion of his impressiveness in his proper haunts; but the majority of authorities confess to being disappointed with wild lions. They complain that the beasts, walking as they naturally do, slouchingly and low along the ground, carrying their head even lower than their shoulders, fail altogether to make the most of their appearance.

Nothing could well be more majestic than the dark-maned, Irish-bred lion, the gift of Mr. Rowland Ward, now in the Zoological Gardens, whether he lolls as if inviting admiration, or moves restlessly at his "great padding pace" about the cage, consciousness of strength in every motion, stopping now and again with uplifted head to gaze through narrowing eyes, over the heads of the human throng outside the rails, to where, at the wolf houses opposite, he has seen the form of a jackal break suddenly against the sky-line.

In the wild state, however, one seldom sees a lion either in repose or majestically alert. A glimpse the hunter may get of him, standing magnificently rigid when suddenly disturbed in early morning at his kill of overnight; and more seldom it has been given to a man to watch one, himself unobserved, gazing from an eminence at the grazing herd. But the lion is a nocturnal animal, leaving covert for the most part reluctantly in the daytime, and possessing an extraordinary capacity for making itself invisible in dim light. Many a sportsman has testified to the experience of being unable to see a lion, on a night not altogether dark, though it was so close that its breathing was plainly audible; and many a native of Africa has fallen victim to the sudden onslaught of what, as he passed it a few feet away, he took to be only a small bush or the blot upon the darkness made by a tussock of grass.

The literature of big-game shooting contains few incidents more blood-curdling than the experience of Dr. Aurel Schulz, who, when with his gun-bearer he was stalking a hippopotamus at night, found that a lion was in turn stalking them. By chance the gun-bearer noticed that a bush behind them had a queer way of being always about the same distance in their rear. In spite of the moonlight they could not be certain that it really was a lion; but when, to test it, they turned upon their tracks, immediately the shadowy thing swept, dim and noiseless, in a wide semi-circle, so as to plant itself again behind them. So, one going back-

wards, with his face always to the lion, the hunted hunters make their way back to camp, having, for the moment, lost interest in hippopotami.

It is sad to have to record of the beast which, we are told, "turneth not away from any" but "retireth only by degrees and with scorn," that when disturbed in the daytime its one thought commonly is to put itself out of sight again as speedily as may be. Livingstone, who, however, seems to have had a grudge against lions in general (as from his experiences with them might justifiably be the case), speaks contemptuously of it as "somewhat larger than the biggest dog you ever saw." Other less biassed judges, like Mr. Selous, bear witness to its furtive and slinking appearance. Even when wounded and at bay, with fangs exposed, ears drawn back and eyes alight, terrifying though it be, it remains unroyal and unadmirable except as an example of sheer ferocity. Stay-at-home visitors to the Zoo, then, can cheer themselves with the assurance that they might go lion-hunting all their lives and never see a lion to such advantage as in Regent's Park.

The lion at large, in fact, the real wild-beast lion, is in appearance hardly more the lion of painters and sculptors than he is the ramping beast of heraldry, or than he is in character the high-minded lord of creation which poets and imaginative writers have sung. Never, surely, was there such a lionizing as the lion received from successive generations of authors. So magnanimous was he that he attacked only those who

withstood him, scorning to strike one who fled or sued for clemency; whereas it is a regrettable fact that few things are more certain in real life than that if you run from a lion he will chase you. Moreover, full-grown men only were his enemies. *Il ne touche point aux petits enfants.* But in the lion house one may see any day the eyes which look so indifferently on the men and women who come and go before the cages light up with sudden savagery as some small child toddles across the floor. The truth is that the lion has learned that men and women are not for him; but this smaller creature—nice antelope-size—soft and helpless, presents itself to the royal mind as easily killable, and as being not impossibly excellent eating.

Again—

> It's said that a lion will turn and flee
> From a maid in the pride of her purity.

And this reverence of the great brute for chastity formed the theme of fable after fable. Mr. W. Cotton Oswell certainly tells the story of a negro woman in real life who, when a lion carried off her husband, pursued the animal and, catching up with it, straddled its back and beat it over the head with a hoe until it dropped its victim and bolted. One may doubt, however, whether it was admiration of the conjugal fidelity of the woman so much as it was the hoe which moved the lion. The lion, indeed, was for so long a mere compendium of all supposedly royal virtues that reaction was inevitable, and modern writers have largely concerned themselves with showing that he is,

after all, only a wild beast, and no better than he ought to be.

But when his detractors have done their worst by the "great carnivorous impostor" he remains a noble animal. He is truly "the most worthiest of all beasts." No other non-domesticated creature has played approximately so large a *rôle* in the history of man. We have only to remember the dreadful significance of the cry "*Ad leones!*" Long before the lion form of the great Sphinx was carved, whether that was 3,000 or 4,000 years before the Christian era, it must have been a favourite subject of sculpture and of legend; and from the marbles in the British Museum we know how frequent (as in the great Bast and Sek-het, the fire goddess) was the same conjunction of human face on lion form, or lion head on human body, as if imagination could go no further to dignify man or god than to endow them with lion qualities; while, as at Nineveh and in Solomon's Temple, the "yellow lords of fear" were set as guardians over the most sacred places.

It is not easy for us now to comprehend how terrible a factor the lion was in the life of early man. From Homer and from the writers of the Old Testament (for we know, not only from ancient literature but from remains which have been found, that lions were once abundant in many regions of Europe and Asia, whence they have long since disappeared) we can gather how familiar an incident in the lives of pastoral peoples was the toll levied

by lions on the flocks and herds; and how heavy such toll might be is indicated by the estimate of M. Jules Gérard, the famous "Tueur des lions," that in Algeria 50 years ago every lion which was suffered to live to its full age cost on the average about £8,400 in the value of the sheep and oxen which it killed, so that the Arab who "paid five francs to the state in taxes paid fifty to the lions." To-day the Algerian lion is practically extinct. The killing of human beings also —of the ordinary wayfarers, that is, who were not prophets and whose demise therefore went unrecorded —must have been an event of constant occurrence, and there was no more certain road to fame than to have slain a lion unarmed and single-handed. It was a feat for Kings to boast of. "I, Assur-Banipul, King of multitudes, by my might, on my two legs, a fierce lion, which I seized behind the ears, in the service of Istar, Goddess of War, with my two hands, killed;" and Benaiah, for that he went down into a pit and slew a lion in the time of snow, was more honourable than the thirty mighty men among David's captains. So also David himself, and Polydamas and Samson and Hercules and Richard Cœur de Lion and divers others.

How many of these stories are true and how many myth there is now no guessing. The strength of the lion, like its other attributes, has been exaggerated; and recent authorities unite in pooh-poohing the familiar story of the lion which leaped a palisade bearing a full-grown ox flung across its shoulders. It

never, it seems, carries anything across its shoulders, nor indeed does it truly carry anything at all; but even its smallest quarry, like the least of the antelopes, it drags trailing along the ground. None the less, well-verified instances of the lion's enormous strength are numerous enough. The Rev. J. G. Wood estimated that, with the incongruous exception of the mole, it was the most powerful in proportion to its size of all the quadrupeds; and one need only note the massive muscles of the shoulders and fore-legs as the beast moves about his cage to wonder how any man, unarmed, could hope to cope with such an antagonist. However willing a lion may be to avoid encounter with man in the first instance, it fights when it does fight, and especially when wounded, with all the whole-heartedness and insensibility of pain which gives a wild beast so great an advantage over more highly organised human beings. A lion has been known after its spine was broken and its hind limbs were paralysed, to go on trying again and again to charge, though at each effort it could only drag its body a few feet along the ground.

Still more significant, however, of the old-time terror of the lion than any incident in which single animals figure, are those larger episodes wherein the beasts combined to match their strength against that of collective man, as in the case of the lions which fell upon the camel-train of Xerxes, or those which checked the repeopling of Samaria. That this last was not an isolated case is evident from the matter-

of-fact way in which Ezekiel uses the image: "He laid waste their cities; and the land was desolate, and the fulness thereof, by reason of his roaring." The prophet could hardly have employed the simile unless it was one which his readers would understand. And, once more, we have a modern instance to make the thing in all its horror comprehensible to us, in the terrible story of the lions of Tsavo, as told by Colonel Patterson.

At Tsavo two lions—two only—held terrorized between two thousand and three thousand human beings. "In the whole of my life," writes Colonel Patterson, "I have never known anything more nerve-shaking than to hear the deep roars of those dreadful monsters growing gradually nearer and nearer, and know that some one of us was doomed to be their victim before morning dawned." But the chief terror of the narrative lies in the fact that, though the lion roars when he starts on his nightly quest for food ("he makes the rocks tremble while he seeks his prey"), he attacks in silence. Night after night the panic-stricken coolies heard the roaring in the forest grow nearer and nearer, until at last silence fell. Then they knew that the real stalk had commenced; and, ignorant where among the scattered camps the assault would be delivered, they could but huddle and wait till the shrieks breaking the stillness of the night told that the beasts had struck.

No fence could be built through which the lions could not force their way. Utterly without fear of

man and contemptuous of his numbers, regardless of firearms or any noise which could be made to keep them away, until the actual last leap unheard and invisible, night after night they broke into the circle of firelight to snatch one man from among his fellows, or invaded indifferently tent or hut or railway carriage, or whatever shelter the men were crowded into for protection, with no more apparent fear than a wolf shows in breaking into a sheep pen, or a fox into a yard full of chickens. All lion literature contains no episode more chilling than the story which Colonel Patterson tells of Mrs. O'Hara, who awoke in the middle of the night with the uneasy sense of something being amiss, to find that her husband was not by her side. A lion had entered the tent and seized him by the head (as lions do when they can), the teeth meeting in the brain making death so instantaneous that the victim had no time to cry out, and drawn him from the bed without waking the sleeping woman.

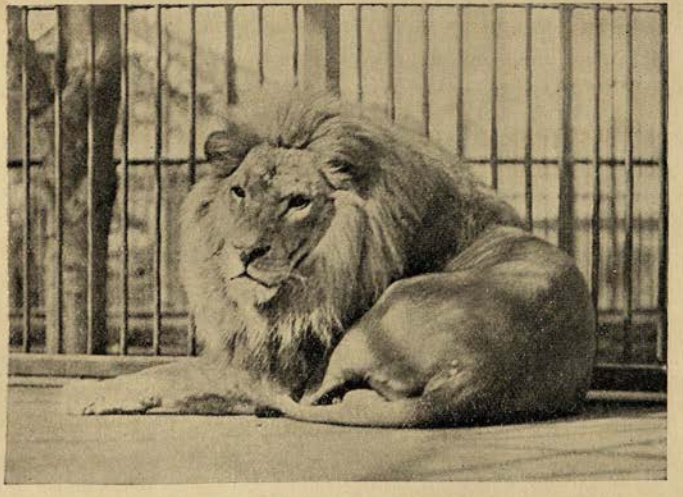
One can imagine how incomparably more terrible the experiences of villages, and even of whole districts, must have been in days when lions were more plentiful than they are anywhere to-day, and when man had no firearms nor any other of the means of defence which were at hand in the case of the railway workers at Tsavo. How came it that man, "on his two legs," ever won the upper hand of the lions, and that the king of beasts is not lord of man as well?

But we know how it was done, for Holy Writ is full of references to "pits," such as that down into which

Benaiah went, and such as are used by many native tribes to-day, and to "nets," which are still employed, staked in a semicircle about the lion's hiding place, from which he is driven into them only to become more entangled the more he struggles. Modern writers, moreover, have described how various African tribes turn out to kill a lion which has taken to man-eating, or has otherwise made its proximity intolerable. As large a muster of men is collected as possible, who, surrounding the covert in which the animal is hidden, close in on it in an ever narrowing circle. Each throws his spear as he gets a chance, and each diverts the lion's attention from his neighbour, until, like a baited bull hesitating to charge home in any direction, the beast is at last speared to death. Emin Pasha told Stanley, however, of one tribe which held lions in such misguided reverence that when one by any chance fell into a pit which had been dug for buffalo or other game, their custom was to let down timbers to make a sloping bridge or gangway by which the captive—probably much astonished at the courtesy—could climb to freedom again.

The feat of "roping" a wild lion does not appear to have been attempted until the year 1910, nor is it a pastime likely ever to become widely popular. The story of how "Buffalo" Jones and his party succeeded in roping their first lioness, as told by Mr. G. H. Scull, is thrilling enough. The dogs had found the trail at dawn, and the hunt lasted until

Foster's Lion



Rowland Ward's Lion

dusk. Again and again ropes had been thrown at her and again and again she had evaded them and charged; each time, on failing to catch her mounted assailants, retreating to new covert. It was in a "dry gully about three feet deep and thickly grown with grasses," that the "last and triumphant trick was played":

Loveless threw again, and the noose of the rope landed fairly above her head, but the thick grasses held it up. When Loveless had passed the end of his rope over the limb of a neighbouring tree and down again to the horn of his saddle, and Kearton had taken up his position with his camera, with Ulyate standing by, everything was ready for the big event.

The colonel (Jones) had procured a long pole, and carrying this in his hand, he rode quietly along the edge of the gully and stopped directly above the beast. With the long pole he carefully shoved the noose downward through the grasses till it lay beneath her chin.

Instantly the lioness sprang at him—sprang through the noose—and Loveless pulled quick and caught her by the last hind leg going through. Putting spurs to his horse, Loveless galloped away, hauling the lioness back across the gully and up into the tree, where she swung dangling by the one hind foot, snapping upward at the rope she could not reach.

In less than five minutes she was safely bound and lowered down to rest in the shade of approaching twilight.

There must be pleasanter occupations than en-

deavouring with "a long pole" to put from horseback a noose about the neck of a wild and already infuriated lioness.

To the fact that early men had no firearms we doubtless owe it that many parts of Africa still contain lions enough for comfort. Even as it was the ancients wasted their lions dreadfully. Doubtless they were kept in captivity, both for Royal entertainment and as a convenient instrument of capital punishment, before the time of Daniel and Darius; but the climax in the consumption of lions was reached in the days of Imperial Rome, when Augustus collected 400 in the arena at once, and Pompey outlavished even that extravagance by having no fewer than 600. The amphitheatre then must have presented a scene eclipsing even that delightful vision of Montgomery:

> Mad as a Libyan wilderness by night,
> With all its lions up.

The largest troop of wild lions recorded in modern times is that seen by Mr. F. J. Jackson in 1890, which numbered 23. In the Zoological Gardens at the present moment there are 11 — no inconsiderable company; and few visitors to the Gardens can have failed to wish that at some time, just for once, the authorities would be so good as to turn them all loose together. They are, too, an interesting lot as showing a wide range of coloration, from that of the dark-maned Irish-bred monster already mentioned and the three fine young yellow males, now rising four years old, from Rhodesia, presented by Mr. R. C. Foster, to the

almost ashen-grey East African lioness, which, pathetically enough, is partly blind, the gift of his late Majesty King Edward VII. Another of the lionesses (of which there are seven in all, to the four males in the collection), also from East Africa, shows clearly the spots which are present in all lion cubs to prove that in all probability the lion and the leopard (and possibly the tiger) have sprung at no distant date, as such dates are reckoned, from one common spotted ancestor.

The Asiatic lion, the so-called "maneless" lion of Guzerat, is no longer considered by naturalists a distinct species, any more than it is, as a matter of fact, maneless. The amount of mane which a lion wears, as well as the darkness of its tint, is largely a matter of the age of the animal (Southey's picture of the lion "cub" with his "young mane floating in the desert air" must not be accepted as drawn from nature) and, apparently, of the jungly or comparatively open character of the country in which it lives. Too copious a mane would be an obvious disadvantage to a beast which spent its days and nights in a dense thorn scrub, such as that about Tsavo; and the Tsavo lions were maneless.

There is but one species of lion, *Felis Leo*; but of the African types seven distinct local races are recognized in the latest classification as given by Mr. Lydekker, distinguished by the variation in colour already mentioned, by the extent to which the mane runs down from the ear towards the shoulders, and by the hairiness of the animals under parts. Sportsmen of experience also declare that the lions of different

districts differ perceptibly in pluck and ferocity. But it has to be confessed that often the differentiation is extremely difficult. A full-grown lion should measure about 9ft. 6in. from tip to tip, following the curves of the body, the record length being apparently 10ft. 7in.; while, for their height, they look so massive that it is always a disappointment, when the animals are in their outdoor cages in the Gardens, (when the height in feet and inches is marked in certain of the uprights of the cages,) to see that the largest of them barely reaches 3ft. 6in. at the shoulder.

Many writers agree in declaring the roaring of a party of lions in unison as heard at night to be the grandest sound in nature. But even on this point authority is divided, there being Anglo-Indian sportsmen who would give the palm to that "crashing trumpet-peal" of a herd of elephants, while Livingstone once more shows his disrespect for the king of beasts by pointing out that it is often impossible to distinguish the voice of a lion from that of an ostrich, in which Mr. Oswell agrees with him. After all, however, this is more to the credit of the ostrich than it is derogatory to the lion; and even here in Regent's Park one may get some idea of what a shattering sound the roar of even a single lion may be. The lion's part in the play in *A Midsummer Night's Dream*, it will be remembered, was "all roaring"; and—

> He roared so loud and looked so wondrous grim,
> His very shadow durst not follow him.

There are, we know from Mr. Hagenbeck, lions and

lions, for when he started to train his first troupe for public performance, out of 21 lions only 4 were found to be teachable; and an aged lion sometimes comes to wear so benevolent an aspect and looks, withal, so woolly—even moth-eaten—in appearance that it is not easy to regard him with awe. As Mr. Emanuel says, "the sawdust on the floor might almost have come out of him." According to old legends lions are dreadfully afraid of cocks, and one can well believe that, after a certain age, they are.

Like, apparently, all animals, however kingly in appearance or however capable of killing for themselves, lions are not above eating carrion, though natives of Africa say that they will not eat either a dead hyæna or a dead jackal. Certainly they will eat dead lions; and more than once a hunter has found the carcase of a lion which he had killed useful bait for attracting others. On at least one occasion lions' flesh has been deliberately pickled, though it is not recorded that anyone ate of it. Mr. Hagenbeck had sold a lion to a trainer who, a few days afterwards, had a "difficulty" with it, in the course of which the animal seems to have been so severely beaten that it died of its injuries. The trainer thereupon telegraphed to Mr. Hagenbeck: "Your lion is dead. What shall I do with it?" "Pickle it if you like" was the reply. The other promptly complied with the instructions and sent the famous animal-keeper the only recorded cask of pickled lion.

Young lion cubs (it is a pity that the names of "lionet" and "lioncel" have gone out of use), especially

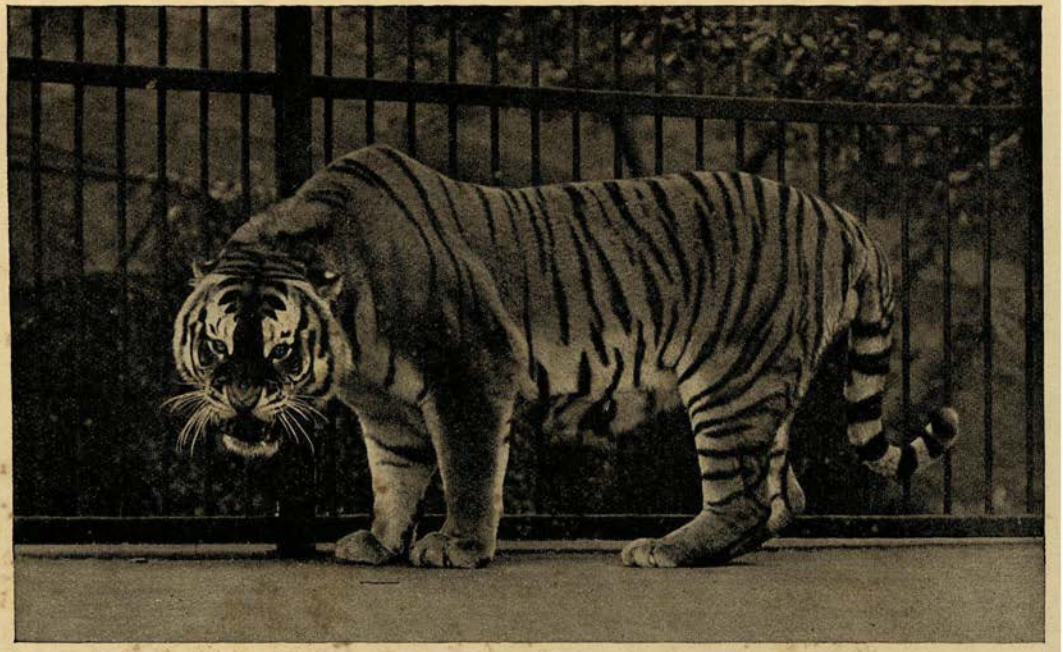
when born in captivity, are as full of fun as any other kittens. I have spent an hour rolling on the grass with four together, and they were delightful playfellows. The Zoological Society, however, has not been lucky in the breeding of lions at the Gardens. It is perhaps not strange if the large Irish lion, having itself been born in captivity, should fail to leave a family behind him; and it may be that the luck will turn with the three grand young animals presented by Mr. Foster. There are high authorities, however, who believe that the fault lies in the Gardens themselves, the locality being too damp, and the houses, with the outdoor cages built, as they undoubtedly are, on the wrong or shady side, being too sunless and gloomy. In other respects, however, as their general condition and freedom from minor ailments show, the great cats have little cause to quarrel with their quarters or their treatment. For all that sentiment may dictate to the contrary, it is doubtful whether the majority of animals are not better off in the Zoo than ever they could be in their wild state. Certainly they have a chance of living longer; and there must be much peace of mind in the assurance of regular meals and great comfort in the freedom from the necessity of having to go out every night to catch your dinner, with always a considerable likelihood that you may fail to catch it.

We are in constant danger of investing beasts with human sympathies and sentiments which are foreign to their natures. When the Revolution was brewing in our North American Colonies an old soldier wrote to

the authorities at home complaining that there was altogether too much talk of "this damned foolish word Liberty." Lions have never read Tom Paine; and it is likely that they are intellectually incapable of comprehending the idea of freedom. If it were possible to approach a wild lion in mid-Africa and courteously to lay before him the option of remaining wild or of coming to England to be comfortably housed and regularly fed, with nothing to do but eat and sleep the livelong day, the probability is that the beast would promptly choose captivity. Nor is there any reason to suppose that he would regret his choice.

II.—Of Tigers.

The question is often raised whether the lion or the tiger is the more formidable beast. Few parents can have taken their children to the Zoological Gardens without being called upon for an opinion as to which, in a fight between the two, "would win." The evidence seems to be in favour of the tiger, for cases are on record of tigers in captivity killing lions, but there appears to be no known instance of a lion killing a full-grown tiger. Not that in its wild state the tiger is undisputed lord of the jungle, or its life, man being out of the question, free from perils. Tigers have been killed in single combat by elephants and buffaloes and gaur and wild boars, as well as by wild dogs hunting in packs. Most humiliating of all, however, was the end of the tiger in Calcutta, butted to death by a ram injudiciously put into the cage to serve as the tiger's dinner. So at least the story runs, but it is not likely that, when at large, rams often take to tiger-killing as a sport, any more than the tastes of Moti, the tiger in the Lahore beast-garden, of which Mr. J. Lockwood Kipling tells, can fairly be taken as typical of tigers in general. "Moti was," says Mr. Kipling, "the only animal of my acquaintance that really liked tobacco. The smoke of a strong Trichinopoly cheroot blown in his face delighted him."



Siberian Tiger

Of the tiger's fighting qualities, indeed, and its tenacity of life there are tales enough in the annals of Indian sport. One has been known to charge an elephant and at a single bound to reach the howdah and drag the sportsman out. It is not amiss that when we would praise soldiers we say that they fought "like tigers"; and so Shakespeare:—

> But when the blast of war blows in our ears,
> Then imitate the action of the tiger;
> Stiffen the sinews, summon up the blood!

Though there may be times when, as Captain Glasfurd says, a tiger, by rams or otherwise, is "almost ridiculously easy to kill, at other times the more bullets it gets into it the livelier it seems to get." Colonel Pollok tells of a tigress, not over large, which, its covert being beaten in the daytime, again and again charged the elephants, badly mauling some of them, as well as nearly killing a mahout, and was finally left in possession of the field, only to be found dead next day with eleven bullets in her, "any one of which ought to have crippled her." In hot-blooded, flesh-eating beasts, like the large cats, the chances are that any bad wound, especially if a bone be broken, will, under the conditions of their life, mortify and ultimately prove fatal; but even with modern arms it is impossible to say that any shot can be so placed as to kill immediately. More men have doubtless lost their lives in following up a supposedly mortally-wounded tiger than in any other department of sport.

In other circumstances, like all wild things, the "blood-foaming tiger" is generally reluctant to face man, except in the case of a female with her cubs. The tigress, indeed, is generally fiercer and a more formidable antagonist than her mate; but her maternal solicitude for her young does not, apparently, make her hesitate on occasions to eat them,—to

> Make her generation messes
> To gorge her appetite.

One Indian writer, in whom familiarity has bred contempt, speaks of the tiger as "naturally a harmless, timid animal," a description the accuracy of which seems to depend largely on what one means by "harmless." There are, of course, man-eaters; and there has been much argument as to what prompts a tiger to turn to a diet of human flesh. In most cases it probably begins almost by accident. A tiger, after two or three nights of hunting without a kill, waits hungrily beside a jungle path for what may pass. Perhaps it has been beaten off and bruised by some animal, boar or buffalo, which it had attacked, and, besides being half-famished, is in no mood to tackle large or dangerous game, when it chances that some sauntering native, a child perhaps or woman, thrusts irresistible temptation in its way. Having once learned how feeble a thing man is, how easily killed and how palatable, it tries again and yet again, until it becomes the scourge of man instead of being his friend—the "villager's best friend," one authority calls it.

Many tigers there are, it is true, which live entirely

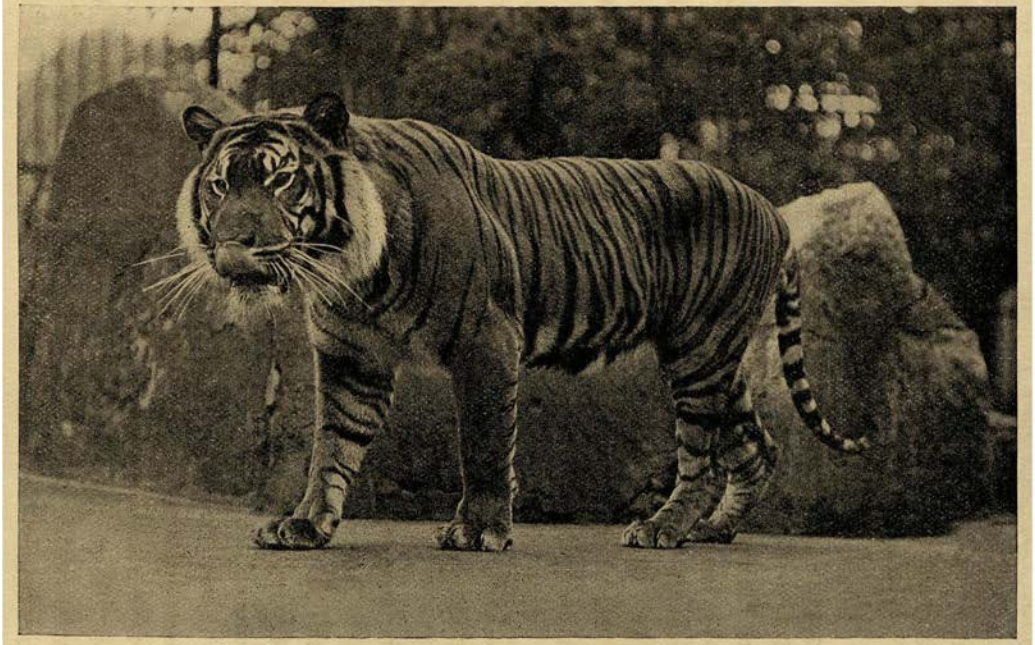
on domestic cattle, and the cost of the upkeep of one which does so has been variously estimated at from £70 to £650 a year. They can hardly be counted as man's friends; but the tiger which preys on tame cattle has already in a measure forsaken its natural ways. The true wild tiger, undegenerate, feeds on the wild things of the jungle, which are stalked and killed as by such a royal sportsman they should be; and these wild things of the jungle are themselves man's enemies and the devourers of his crops. Loud complaint has many times been made in India of the devastation wrought by lesser animals in districts where Englishmen have killed off the tigers, and Government has even been petitioned to re-encourage tigers that the crops might be protected.

Tigers which have taken to a cattle-diet are commonly very jealous, each of its own preserves; and "when two tigers contend for the privilege of slaughtering the cattle of any particular locality, one is almost sure to be killed, and perhaps eaten by the other." The natives, therefore, are reasonably assured of the amount of toll which they will have to pay. None the less, tigers sometimes grow over numerous in a district and live in amity together; so that a case is recorded of five full-grown animals being killed by a single carcase poisoned with strychnine. "Stripes," indeed, has to put up with being killed in divers, more or less, illegitimate ways, as by being shot with poisoned arrows, by being netted and speared when in the meshes, and by being speared from boats, by which

means Colonel Pollok records that one Burmese *shikari* had killed over 100 tigers. But, however irregular, some of these methods demand appreciably more courage than does tiger-shooting from a *machan* with a modern rifle.

The theory that a man-eater is always an old tiger, more or less toothless and feeble, which has found the strain of catching vigorous wild game too much for its failing strength, has been upset by the bagging of notorious man-eaters which were found to be young animals in the full pride of their powers; and it is likely that the taste for human flesh is passed on from mother to child, the tigress, herself a man-eater, teaching her cubs to hunt as she hunts.

How terrible a thing a man-eater may be can be judged from the fact that a tiger generally kills every second night, whether its quarry is man or beast. Having killed, it makes one meal that night, then drags the carcase somewhere into cover, and more or less conceals it as a dog may hide a bone. On the next night its habit is to return to the same kill, and it is in that second visit that the hunter usually finds his opportunity. It is not the rule for a tiger to return again a third time, not because it is above eating carrion, but seemingly it tires of the carcase which it has already twice mumbled over. Thus one tiger has been known to kill regularly its 15 natives a month with almost mechanical punctuality. Another, which seemingly did not confine itself entirely to human flesh, devoured an average of 80 people, men and women, for several



Sumatran Tiger

years; while yet another is reported to have killed 127 people, and to have stopped traffic on a public road for many weeks. There have been both English sportsmen and native shikaris who have accounted for their hundred tigers and upwards; but many a tiger has killed more human beings than any man has ever scored tigers. On the other hand, if sportsmen sometimes fail to bag their tiger without excuse, native women have been known to beat off the "deep-mouthed brute, dread of the brown man," with nothing more formidable than a bamboo cane, and it is recorded that a missionary has successfully stood one off with a Chinese umbrella.

Like the lion (like, indeed, most wild animals) the tiger, gaudy though its coat is, possesses an almost incredible faculty of making itself invisible. So much scientific searching is now going on of the doctrine of protective coloration that one hesitates to say that there is any advantage in the striping of the skin, or that the beast would not succeed in concealing itself as well if it were unicolorous. But the testimony of sportsmen is unanimous on the completeness with which the black and tawny bars of the lurking animal merge into the alternating upright light and shade of the stems of the jungle growth, and Colonel Pollok tells of a case wherein he and a companion beat, on elephants, every tussock, as they thought, of a thin strip of covert in which they were confident that a tiger must be lying hidden, and it was not till they had given up the search that, at a shot fired at some smaller game,

the tiger bolted from where it had been hiding behind a small bush "not large enough to hide a hare."

And it has need of invisibility; for its life in its wild haunts depends on its ability to catch creatures endowed with extraordinary acuteness of hearing and sight and scent. The tiger, like most animals, has a strong and characteristic smell, so that to approach its prey down wind must at any time be impossible. For a large part of the year, too, it has to support life when nature is parched, and, with all its noiselessness of tread, it cannot move without some dry leaf or stalk crackling to betray it; so that more than one writer of experience has declared it to be a mystery how the tiger at such times kills its prey at all, and in explanation various stories have gained currency, as that it answers the "belling" of the sambhur and so calls the stag to its destruction. It has even been reported to lie out deliberately in the open within sight of deer till by their curiosity they are drawn to it, just as hunters successfully attract antelope by a rag shaken on a stick, and as foxes are believed, and toling dogs are trained, to romp and cut antics on the shore of water where waterfowl are feeding, to lure them to the land. In the same way weasels and stoats are said to draw rabbits to them by frolicking in plain sight. The story, however, in the case of tigers, seems to rest on slender evidence, and the tiger probably lives only by virtue of its stealth and secrecy, most often lying up by night beside a jungle path or near water where the beasts come down to drink, but sometimes also stalking a grazing herd in open daylight.

Then from close quarters it breaks upon its prey, neither running it down (if it misses its first shot it rarely attempts to follow a fleeing animal) nor, as is commonly supposed and most often pictured, leaping on its back, but rushing at it with a headlong burst of a few terrific bounds and striking, fixing, if it can, one paw on the shoulder and another on the head, and so wrenching the head back to break the neck, or biting upwards at the throat. Nor, again in contradiction of popular belief, does it, having killed, eat into the animal from the throat or suck the blood, but begins its meal with the fleshy parts about the buttocks, leaving at the first meal, if the game be of any size, the fore-quarters untouched.

Whether its colour helps the tiger in its furtive life or not, it is a royal livery that it wears. The "spoil of lions," but for their manes, have not much majesty. A cow-hide may be handsomer. But a throne can ask no more sumptuous trapping than a tiger's skin. It is curious, too, that in nature the same flame-like colouring as of the "tiger, tiger burning bright" is used again and again as the garb of the most savage and dangerous creatures: so frequently, indeed, that it furnishes the best known instances of what has been known as "warning coloration." We have already seen, however, that the tiger's stripes appear to be aids to invisibility, and recent experiments have shown that other not dissimilar markings, as in coral snakes, instead of being brilliant enough to serve as "warnings" are admirably adapted to the wearer's conceal-

ment. In zebras, again, we find a combination of fulvous yellow and black stripes on an entirely harmless and non-carnivorous animal. None the less in wasps and hornets, in certain snakes, in the fierce little striped hunting spiders, in the venomous heloderm lizard, and in the most poisonous amphibia (all of them the tigers of their kind) the combination of yellow or orange with black or dark brown is so frequent that we have come to accept it almost instinctively as a sign of danger.

Blake, in the words quoted above, is not the only poet who has felt the fire suggestion in the tiger's colours. Morris speaks of its "fire-ball eyes," and Jean Ingelow:

> In tangles of the jungle reed
> Whose heats are lit with tiger eyes—

When the yellow fires of lightning streak the blackness of the Indian night sky, it is the god abroad on his tiger-steed; and the tiger, of course, plays a large *rôle* in Indian legend. Siddartha and Yesodhara, it will be remembered, had been tigers "a myriad rains ago"; wherefore it was that she wore the tiger-colours, a veil of black and gold, when she came to meet her lord, as once before when he lay:—

> Couched in the kusa grass
> Gazing with green blinked eyes upon the herd.

Another Indian lady, a Mrs. Hauksbee, wore the same colours for, presumably, other reasons.

The natives of some parts will not speak of the tiger by its right name, but only under pseudonyms

and by periphrases, and its supernatural attributes are a common theme of myth and gossip. Many a shrine notoriously has a tiger for its guardian; and holy men generally are said to be able to go without fear of the beasts. Unmatched for horror among all the tales of the tiger's supernatural associations, however, is surely the awful story of the half-eaten human corpse, the tiger's own kill, which raised its dead arm to point out the whereabouts of the hidden sportsman in warning to the brute returning to its prey.

To various parts of the tiger, as its claws and teeth, bits of the skin, divers odd bones and sundry organs, magical properties are assigned; and the whiskers in particular have had, and probably still have, the reputation of being a certain poison, possessing in Oriental superstition the same quality as used in England to be attributed to spiders, namely, that he who partook of them in his food or drink presently died raving mad. With us to-day the use of tiger's whiskers is less heroic. They are chiefly valued by entomologists for use when "setting" insects, in lifting into place the wings of butterflies. They possess a combination of stiffness and flexibility which no pig's bristle has apparently yet been able to supply.

Apart from the beauty of its coat, the markings of black and white and yellow in the tiger's face give it a peculiarly terrifying aspect when it is enraged—so terrifying that it is believed by many to serve the purpose of fascinating or mesmerising the animal's

prey. Even behind the bars of a cage a tiger's face, when it is in anger, with the ears laid back and the fangs exposed, with the eyes literally almost alight, with the width of the head nearly concealing the body behind, and the extraordinary mask-like character of the markings, is a truly horrifying spectacle. Seeing it, one sympathises with the old writer who poured out the vials of his vocabulary of abuse on the brute "with fell clawes full of fierce gourmandise and greedy mouth wide-gaping like hell-gate."

If, however, a jury were to be impanelled to select the noblest-looking animal now in the Zoological Gardens, the verdict would almost infallibly be unanimous in favour of the Siberian tiger. It is difficult to imagine anything more beautiful, more full of dignity and of the supple grace of strength, than one of these gorgeous, deep-furred brutes (for the Gardens are rich in possessing two of them), whether moving restlessly about or lying relaxed upon the roof within the outdoor cage, where it catches more sunlight than can reach the ground, and whence it gazes with that supreme indifference of the large cats over the heads of the people below to where in the further cages it can see strange animals which now it has learned that it cannot reach, but must at first have set its nerves tingling. There are also in the Gardens three Indian tigers, and it is doubtful whether one of them, the huge male presented by Mr. A. Forbes, does not weigh as much as either of the Siberian monsters themselves; and lastly there is a smaller but singularly

beautiful Sumatran tiger, whose fulvous coat, as much darker than the colour of the ordinary Indian specimens as the thick fur of the Siberian cousins is lighter, with its rich black markings, makes it perhaps the handsomest tiger of the lot. Even in the same locality tigers show a considerable range of colour, from bright yellow to rich tawny red, with endless variety in the width and numbers of the stripes. Once a wholly black tiger is said to have been found dead, but it is the only specimen on record, which is perhaps curious. as melanism is not infrequent either in panthers or jaguars, and skins are known both pure white and showing faint reddish stripes upon a white background, But how a beast of the size of a tiger, coloured white, can stalk its prey successfully and live in a wild state it is hard to understand, even though its stalking may be done chiefly in the deep darkness of the jungle at night.

In size, any tiger which measures ten feet fairly, before skinning, from the tip of the nose to the end of the tail, is a large tiger. Afterwards a ten-foot skin may be stretched so as to measure upwards of 13 feet. Sir Joseph Fayrer gives 12ft. 2in. as the *maximum* length, but an animal is said to have been shot at Daudpore in 1805 which measured 13ft. "and a few inches," and Colonel Percy, who cites the record, evidently inclines to believe it. The race of 12ft. and 13 ft. tigers, however, if it existed, seems to have disappeared, and Buffon's record of 15ft. is at least unsubstantiated, while Hyder Ali's alleged 18ft. monster may be safely regarded as myth.

The tiger's voice is less royal than the lion's, but it has a terrific quality of its own. One may hear it, though most often in the night, in Regent's Park—a sort of moaning cough, which comes from the back of the throat, strangely raucous and bloodthirsty-sounding. There are those who hold it to be more awe-inspiring than the lion's full roar, and say that here in the Gardens one cannot grasp "the supreme awfulness of the real voice in nature, which literally hushes the jungle and fills the twilight with horror."

But even here it is thrilling enough and not unworthy, in its raw savageness, of the beast to which it belongs; for, after all, the chief characteristic of the tiger is its sheer wild-beasthood: "a model wild beast" it has been well called, "doing the work which nature has set it, and doing it with all its might." Mr. Hagenbeck says that it is always something of a hooligan.

It is asserted by some writers that, when it takes to man-eating, the Indian "panther" (the paler, thick-set type of the leopard) is worse than the most voracious man-eating tiger. The latter kills for its needs alone, but the leopard seems to kill often for the love of killing; and it is, moreover, itself often more difficult to destroy, more wary and making its lair in remote and inaccessible places. Not that the leopard can ever be so serious an antagonist as a tiger, for no one has yet made a sport of trapping tigers and turning them out in the open plain, in the centre of a ring of horsemen armed with spears, to be ridden down and "stuck"

like a wild pig. This has been (and is) done with panthers; nor does it involve anything like the danger that there is in sticking a boar.

It is a pity that the word "panther" has been so variously applied, being used alike for the Indian leopard, the South American jaguar and the North American puma or cougar. The jaguar also is commonly a "tiger" in the countries where it lives, while the puma, besides being a "panther" or "painter," is even more commonly a "mountain lion," a "catamount" (a name which is also in some localities given to wild cats and in others to lynxes), or simply a "lion" *tout court.* On the other hand, each of the animals is subject to so much variation in different localities that, just as there are many who believe the Indian "panther" to be a species distinct from the leopard, so efforts have been made to establish two, a Northern and a Southern, species of puma in North America, while in parts of India and in Burmah the natives claim the existence of two kinds of tiger, of which the beast of the mountains is a bolder and a nobler animal than that of the plains. Science, however, at present declines to recognise anything more than varieties, or at most local races of one single species of leopard (excepting the snow-leopard or ounce), puma, and tiger; just as it declines to acquiesce in more than one true lion.

When Mr. Hagenbeck adopted his plan of keeping his animals not behind bars but in the open surrounded by moats or trenches, it was necessary first to

find by experiment the leaping power of the various beasts. He practised them in high-jumping by fixing a stuffed pigeon to the upper side of a branch of a tree ten feet from the ground. The leopards could reach the branch but not the pigeon. Tigers fell well short of it; and lions, he estimates, cannot jump above 6ft. 6in. Ten feet on the level he takes to be as much as any of them can cover in a wide-jump from the stand-still, though with a run they can do three or four feet more. There seem, however, to be well-authenticated cases of animals in their wild state exceeding these limits. We are familiar with sportsmen's tales of both tigers and leopards which have miraculously leaped thirty and even forty feet, which could only conceivably be possible from a high rock or down a steep hillside. Properly measured bounds of the American puma or cougar, however, seem to have reached 18½ feet. And few things are more beautiful than the supple grace and lightness of either leopards or pumas when romping together.

The habits and disposition of the puma are perhaps less known than those of any other of the large cats. Terrible tales have been told of their savagery, but there are not a few hunters of experience who declare that not only is the puma a timid thing but it is the only large carnivore which, if unprovoked, is inclined to be positively friendly to man. Many years ago the present writer was in a part of the Bitter Root Mountains in Idaho, then very remote from railroad or settlement, when one day there strolled into our camp

—a dog. We should, perhaps, have been less surprised to see a polar bear. We had supposed that we were in an entirely unpenetrated country and did not believe that there was another human being within, at least, fifty miles in any direction. But here undoubtedly was the dog (of no especial breed, but just a dog), very skulking and miserable, extremely desirous, and almost equally afraid, of human companionship. It stayed with us, not becoming one of us, but remaining semi-attached to the party, coming and going pitifully into and from the woods.

It was in late spring, when in sheltered places the ground was still coated with a lingering carpet of snow; and one day, when passing such a patch along the side of a stream, a few hundred yards from the camp, we found the white surface covered with the footprints of two animals which had been romping together. The footprints of one animal were those of a puma and the others were those of our half-wild, windfall dog.

The puma's cry is one of the weirdest sounds in nature, like the scream of a woman mad with pain; but the creature is so elusive that in a wooded, broken country, though he may hear them screaming nightly and may know that they are plentiful in the neighbourhood, unless provided with dogs trained to track and tree them, the chances are largely against a sportsman's ever getting sight of one. That they crouch in branches of trees overhanging woodland trails for the purpose of leaping down upon passing human beings (or any other game) seems to be altogether without foundation.

They lie in wait for their prey on foot, or stalk it like any other cat; while to human beings there is, as has been said, grave doubt if, of their own initiative, they are ever hostile.

Of another temper is the jaguar, beyond doubt the most innately savage of all the Felidæ. The well-grown adult jaguar, rich-coated, broad-headed and thick-necked, is one of the most formidable-looking and handsomest of beasts; and even the young jaguar kitten is commonly altogether intractable. In the spring of 1910 the present writer became acquainted with one in Demerara, captured a week before, of about the same age as the lion cubs already spoken of, which made such charming play-mates on the grass. But there was no playing with the jaguar. At the approach of a human being, instead of retreating into the recesses of its cage, it flung itself against the bars, a living, spluttering firework, thrusting out its arms between the bars and, with wide-spread claws, tearing at the air while the object of its fury was yet a long way beyond its reach.

A curious fact with which animal-keepers are familiar is that almost all the carnivores are liable to break out in fits of frenzy, in which, in the absence of any other motive, they turn upon themselves and tear their own flesh, biting their tails or paws, or rending any other part that they can reach, so severely as to inflict fatal wounds. But the natures of the wild things are not our natures, and they are full of contradictions. As Milo, "Abbott of the Cloister of St. Mary-of-the-

Pines by Poictiers" (as quoted by Mr. Maurice Hewlett), wrote:—

This is the nature of the leopard: it is a spotted beast, having two souls, a bright soul and a dark soul. It is black and golden, slim and strong, cat and dog. . . . A leopard is sleek as a cat and pleased by stroking; like a cat he will scratch his friend on occasion, yet again he has a dog's intrepidity, knows no fear, is not to be called off, longanimous. . . . So the leopard is a lonely beast.

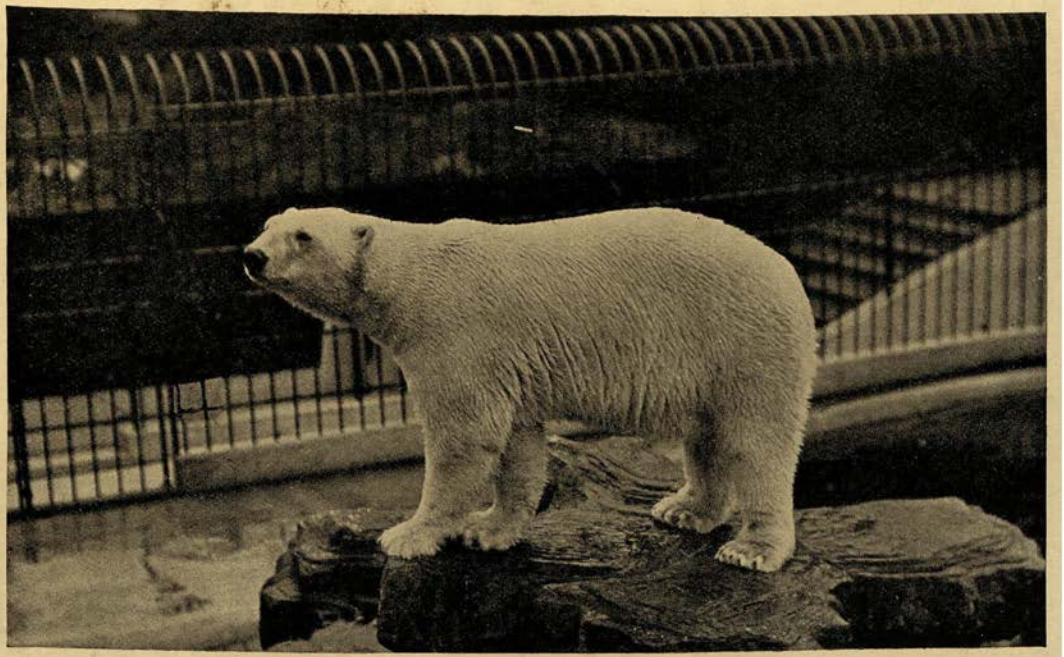
III.—Of Bears.

"When a bear kills a cow he kills her in the following manner: he bites a hole into the hide and blows with all his power into it, till the animal swells excessively and dies; for the air expands greatly between the flesh and the hide." It was intelligent of the bears to find this out in the first instance; but it seems a circuitous method of killing, for a cow might be expected to support considerable inflation before becoming defunct. Happily, however, we have the information on the high authority of a naturalist who was also a Quaker.

But it is not easy to take bears seriously. This may be partly the result of our own prejudice, born of seeing them dance ridiculously in the streets; but in large measure it is undoubtedly the fault of the bears themselves—"very ill-favoured rough things," as Slender says—"shuffling bears," whose clothes fit them, so to speak, deplorably ill, while their persons end towards the rear with a suddenness which precludes any affectation of dignity.

> The Bear he never can prevail
> To lion it for lack of tail.

Which is as true of the real bear as it was of that bear



Polar Bear

with the ragged staff in insult to whom the original (*Ursa caret cauda: non queat esse leo*) was written. Not that the real bear would "lion it," if he could; for he is a flat-footed, middle-class, unpretentious beast ("shambling, shuffling, plantigrade!"), to whom the necessity of playing at being king would soon become an intolerable bore. Nor is it easy, when one considers the matter, to decide how a tail would improve a bear. Would you give it a pig's tail, a squirrel's, or a lion's, or a kangaroo's? One can imagine it ending in fifty different appendages, only to appear more ludicrous with each; and nature doubtless did wisely, having made an animal to which no pre-existing style of tail would be becoming, to leave it, as it were, unfinished.

That bears were not handsomer was for centuries (until admirably refuted by Sir Thomas Browne) believed to be the result of the fact that cubs were born shapeless, mere "growing lumps." Such form as they might subsequently acquire was due to the mother's licking of them with her "plastic tongue"; and a good deal of obloquy has been heaped upon the poor mothers, by poets and others, because they did not make a better job of it. But after all, as has been pertinently pointed out, there is not anything "seriously derogatory to a she-bear in being the mother only of bear-cubs." It is unreasonable to expect a bear-mother to lick her cubs into anything other or better than bears. And at the worst the bear's mere clumsiness so disarms criticism that it becomes a positive advantage to him. Rough, good-

natured dullard that he looks, we like him for his very awkwardness.

To the general public the creatures in the Zoological Gardens fall into two classes—those which will eat buns or nuts, and those which will not. The former are known as animals and the latter as brutes. However much this may fall short of scientific accuracy, there is a good deal of moral justification for the distinction, because it may roughly be assumed that the creature which will not eat either buns or monkey-nuts would, if it got the chance, probably eat you. Measured by this standard, bears—bears in general—come out triumphant, betraying an innocent taste for confectionery which at once conciliates our sympathy, so that the human mother standing outside the bars can share a bun in alternate mouthfuls impartially between her baby and the bear. Thus a friendly relationship is established which is impossible in the case of either lions or tigers.

"It is not generally known, perhaps, but bears are the offspring of a man who, unable to pay his debts, went off to the woods and never came back again, for he married some wild forest thing and lived among the fir trees to the end of his days."

Whether "generally known" among human beings or not, this is undoubtedly known to the bears; for the folk-lore of all countries is full of stories of people who, having been deserted in the forest as babes, have, like Atalanta and Orson, had bears for their foster-parents.

There are, of course, bears and bears. Even the nursery is familiar with the existence of at least three kinds in the Great Big Bear, the Middle-sized Bear, and the Little Wee Bear; and a writer on unnatural history has given us an infallible guide for distinguishing between these species in the fact that you may always tell which of the three it is that you have met by the amount of you which, after the encounter, remains uneaten. To be more pedantically accurate, the polar bear alone is truly carnivorous, the other species, if in varying degrees, living in their wild state by preference on roots and fruits and insects.

> Savage! Whose relentless tusks
> Are content with acorn husks!

So Bret Harte apostrophised the grisly. *

And it is not only in the matter of their diet that there is a gulf between the bears and the great cats, but in the manner of their feeding they also differ widely. The latter kill, it may be, once in 24 or 48 hours or even at rarer intervals, and, having killed, gorge themselves. The bear—taking the black bear of North America as an example, as being (with the possible exception of the Teddy bear from the same country) the best known species—kills no such quarry as will furnish a full meal, but it strolls forth and browses, now scratching up a root, now munching a mouthful of sprouting buds, or revelling in a patch of blueberries or other wild fruits, tearing off a strip of bark from

* It was not of grisly bears that Henley was thinking when, in "The Song of the Sword," he spoke of "the dim, unappeasable grisliness."

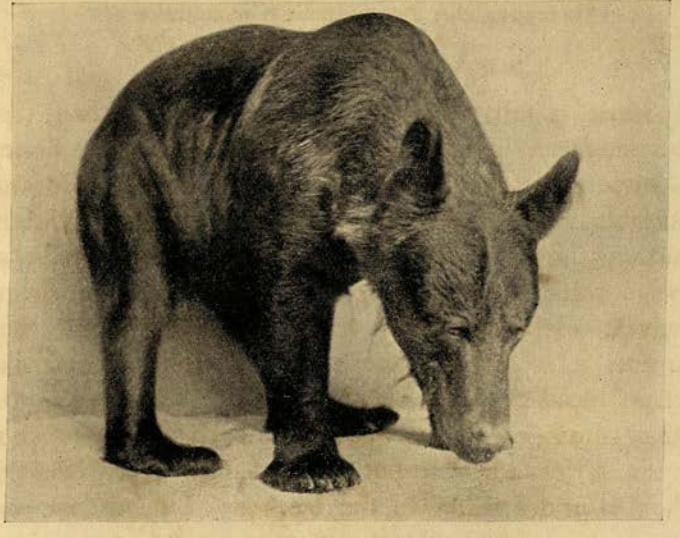
a rotting tree and intercepting such beetles or other crawling things as may be disturbed, turning over a stone to dislodge, perhaps, a lizard or a mouse, and dallying half-an-hour at an ants' nest, eating ants. Such little tiny kickshaws as ants and beetles and berries can go but a small way individually towards filling the stomach of a bear; but few things come amiss to it, and, an industrious picker up of trifles, in one way and another it grows fat enough to stand the enforced fast of its long hibernation—fat enough also to make bear's grease.

Southey, indeed, has suggested that the making of bear's grease is the chief end of bears :—

> . . . . As thou wert born,
> Bruin, for man, and man makes nothing of thee
> In any other way, most logically
> It follows, that thou must be born to dance
> . . . . and that thy fat was given thee
> Only to make pomatum.

Most of all things to eat, more even than ripe berries or any of its favourite roots, a bear loves honey —an amiable weakness which, both in real life and in fable, has not seldom led it into trouble. Ancient authors, however, denied that it was for the honey that bears rifled hives. They were but medicining themselves. Being troubled with dimness of sight, they invite, it seems, the bees to sting them and "make them bleed about the head, and so discharge them of their heaviness." It would evidently be more convenient for a bear to put its head into a hive than to hold it under water to the leeches; but no one can

Sloth Bear



Mr. Ringer's Hairy-Eared Bear

doubt the bear's infantile fondness for sweets who has once seen with what alacrity the big brown bear in the bear-pit in Regent's Park, no matter how sulky his mood or how replete he may be with the offerings of a Bank Holiday crowd, comes hurrying to the bars at the keeper's first rattle of a wooden spoon in a golden syrup tin. So well known is the bears' penchant for sweetstuffs, indeed, that those in the Gardens are kept liberally supplied with pots of honey and treacle and jam, the voluntary gifts of the public.

Some writers have doubted whether in their wild state ordinary bears ever kill for food any animal larger than a squirrel, a mouse, or the young of marmots, which last they arrive at by digging out the nests from underground. There is abundant evidence, however, that even the American black bear is less innocent of blood than this. That it kills the young not only of the smaller deer, but of wapiti and elk, or moose, is well established; and desperate battles take place between the bears and the hind, or cow-moose, endeavouring to protect her children. Pigs—especially young pigs, as settlers on the frontier learn to their cost, are delicacies which appeal to the taste of all bears alike. The Himalayan black bear kills calves and ponies, and in some districts of the United States a heavy toll is levied on the flocks and herds. Some authorities, indeed, believe that the influence of civilization is corrupting the bears, making them more carnivorous by placing in their way greater temptation, in the form of domesticated animals, than ever they

are subjected to in their wild state. We have seen the same thing in India, where a large number of tigers, intermediate between the true wild tigers, living only on wild game, and the altogether perverted man-eaters, maintain themselves entirely on domestic cattle. The same thing undoubtedly occurs in England in the case of some species of birds, once regarded as the farmers' friends, which are learning more and more to live upon the farmers' crops. There appears, however, to be a *primâ facie* argument against this in the fact that there is said to be no meat of which bears are more fond than they are of bear-meat. That is a predilection which it is difficult to believe that they owe to man.

Bears, indeed, given proper opportunity, are carnivorous enough. Their feeding-time furnishes no such popular spectacle at the Zoological Gardens as does the lions' dinner hour, but all are given meat as well as vegetables, chiefly in the form of cooked bones and fish. In poisoning or trapping bears the bait used is commonly meat and often cooked meat; and there have been cases in the United States where bears have made themselves a nuisance about hotels built in districts where the killing of game is forbidden, coming to rummage among the scraps and rubbish thrown out from the kitchen and submitting with reluctance to being shooed away by kitchen-maids.

Not many miles from one of our English University towns there lives a zoologically inclined professor who keeps such strange creatures at large about his

premises that there is difficulty in persuading servants to stay there. "You should just see the things as comes into the kitchen, mum!" one who had been a cook at the establishment is reported to have said to a lady who considered engaging her. But at the worst no beasts which could be allowed to run loose about the garden of an English country house could be as inconvenient as families of wild bears from the forest sniffing at the larder door.

One is tempted to believe that much of the abuse which bears have received from English writers in the past has been owing to the unfortunate facility with which the name lends itself to rhyme. The poets have set the example of vituperation for other writers to follow. Macaulay's bear "growling amid bones and blood" is not convincing, and might better have been a lion or a tiger; but lions and tigers, panthers, leopards, and jaguars are almost as intractable for poetic purposes as they are in real life. Bears unhappily rhyme so readily with lairs and hairs—blood-clotted or other—snares and glares, that they almost thrust themselves into simile as a synonym for all that is horrific and that "drinks the blood of men."

Further misconception has doubtless arisen from the bear's voice. It used to be believed that bears sucked their paws to satisfy their appetites: that, indeed, they supported themselves during hibernation on the nourishment so obtained,—

> And when these failed, he'd suck his claws
> And quarter himself upon his paws.

We do not know why they do it; but it seems to comfort them, much as it comforts a baby to suck its thumb. Nor does it appear to matter much whose paw they suck; for they will mumble that of another bear, or even the hand of a human attendant, as readily and with as much evidence of satisfaction as if it were their own. The humming or droning noise which they usually make while so engaged (as well as at other times)—a sound which differs in different species as well as in individuals—is probably as much a sign of contentment as the purring of a cat, but it sounds peevish and irritable. The bear's voice at other times, too, strikes human ears as whining and petulant, though the animal's mood may be of the friendliest. Undoubtedly we should think vastly more kindly of bears if they did happen really to purr, instead of grumbling as they do, and if, in place of "wah-ah-ing" hoarsely from the back of the throat, they would bleat innocently like a sheep.

In days when bear-baiting was a popular pastime, moreover, the conditions under which the public was most familiar with Sackerson were not such as to encourage admiration of his docility or good nature. Circumstances, therefore, have been against the bear and divers extraneous causes have combined to prejudice opinion against him.

It is easy, however, to go to the other extreme and exaggerate the amiability of bears. Not altogether without justification is it that "surly as a bear" has become a proverb, or that we use "bearish" in the

sense in which we do. Mr. Hagenbeck says that bears are responsible for more accidents than any other animals trained for public performances. Cubs indeed often make delightful pets and playthings, but with advancing years, even under the kindest treatment, they tend to grow treacherous; and, whether in captivity or at large, bears are wicked fighters when they choose, their method of attack being by striking savagely with their huge fore-paws armed with the long curved talons. Even the absurd-looking sloth bear is said to be one of the antagonists of which the tiger itself stands in awe. Any mother bear with young cubs is nearly always dangerous, while the present writer has found a wounded black bear, when charging, a sufficiently disconcerting thing.

Nineteen times out of twenty a bear, whether European brown, Asiatic red, grey, or black, or American black or grisly, is willing enough to avoid an encounter with man; but the choice of the twentieth time seems to be a matter of mere caprice, so that no man can say for certain that Bruin, however met, will not show fight. As Artemus Ward discovered, a bear, if "amoosin'," is too often also "onreliable."

That the nursery classification of bears, referred to above, whereby they are divided into three kinds, the Great Big Bear, the Middle-sized Bear, and the Little Wee Bear, is not—even if we add the Woolly Bear—truly exhaustive, becomes evident from the fact that the 21 bears now in the Zoological Gardens include 10 different species and two hybrids.

It is true that among these are two sloth bears, which science declines to recognize as bears proper, though in external appearance they are almost more bear than the bears themselves. Rather more awkward and simple-seeming (perhaps because it is very short-sighted), a trifle longer snouted, with hair sufficient to conceal the fact that it has an extra inch or two of tail, a good deal more unkempt and looking very much as if it had not been to bed all night, the sloth bear is almost the *reductio ad absurdum* of the bear idea. Its habit of taking food into its mouth by suction makes it, apart from its gratifying informal appearance, one of the most entertaining creatures in Regent's Park. If a piece of biscuit be placed some three inches outside the bars of the cage, the sloth bear puts its snout as near to the morsel as it can reach; there is a long whistling in-drawing of breath, and the biscuit—whee-ee-eep!—disappears into the animal's mouth as suddenly as if it had been jerked in by a piece of elastic. As a renovator of draperies on the vacuum principle, a properly educated sloth bear would be invaluable. But, with all its air of ragged good-humour and its agreeable eccentricities, the aswal, to give it its Indian name, is a dangerous animal, with its long muscular forelegs and huge hooked claws. The tiger, as has been said, learns to give it a wide berth in the jungles; and in captivity an aswal has proved itself the master of the polar bear itself.

With our larger knowledge of it, indeed, the polar bear has ceased to be the altogether terrifying monster

that it was represented by the early navigators in Northern seas ; but it remains a serious beast enough, gaining added impressiveness from the desolation of its natural haunts :—

> The white bears all in a dim blue world
> Mumbling their meals by twilight.

In the case of all wild animals there are two chief causes which make them less terrible to us than they were to our grandfathers. First and most important is the improvement in modern firearms, which, in proportion as it has added to man's powers of attack and defence, has reduced the formidableness of all his antagonists. In the second place, animals almost universally have learned to fear man and have become more cowardly and less dangerous in consequence.

The race of polar bears such as that which Gerard de Veer reported to have been killed by himself and his comrades, the skin of which was 23 feet long, appears to be extinct ; and it is difficult to stand permanently in awe of animals which we have become accustomed to see performing in troupes. None the less, the polar bear, growing as it sometimes does to a good 9 ft. in length, is still a foe to be dreaded. The members of Arctic exploring parties have to be carefully on their guard against it, and few tales of wild beasts are more uncanny than the story which Dr. Nansen tells of the bears which came on board the *Fram* at night to carry off the sleigh dogs which were tied on deck. One bear took three in a single night, carrying off first the dog at the end of the line and retiring

to eat it, then returning for the next, and again for a third ; and, though a young bear and small, had it not been discovered and, with some difficulty, killed, there is no knowing how far it would have worked its way through the pack before morning.

Like all the family, the polar bear is unexpectedly active for so clumsy-looking a brute. But it is an ungainly thing on dry land at best, and its narrow head, loose skin, and heavy shagged hindquarters give it an unlovely resemblance to a living bag the contents of which are loose, so that, having been held up by the neck, its insides have all run down to the other end. But in the water it is another creature, for it swims with the sinuous grace of an otter. Experience has proved the necessity of especial precautions to keep the public in the Gardens well away from the bars of polar bears' cage ; and it is not merely to prevent ladies' frocks from being splashed that, in the new pond, the outer barrier is set so far from the rails of the inner enclosure. Even a full-grown polar bear is almost kittenish in its playfulness, and the sleek, white coat of the head and neck looks so eminently strokable that visitors are reluctant to suspect so engaging a beast of malice and slow to understand the danger that lies within the radius of the sweeping, lightning-like stroke of those massive paws. But in captivity it is the least to be trusted of all the bears, a characteristic which is curiously transmitted to one of the hybrids already mentioned. Both of these are crosses between the polar and the European brown

bear. One of the two is half-and-half and is a comparatively amicable creature. The other is three-quarters polar and one-quarter brown, and in its temper it follows the predominant strain, being one of the most irritable animals in the Gardens.

These hybrids are evidence of the facility with which almost all the bears will interbreed, a fact which sometimes makes classification troublesome. It used to be generally believed, and is still held by many, that, without counting the great Alaskan or the Barren Ground or polar bears, there were at least four distinct kinds of bears in North America. Even this number has been indefinitely extended according to individual fancy; but four species, commonly known as the "true" grisly, the silver-tip, the cinnamon, and the black, were for a long time universally accepted. It is now fairly established that there are two kinds only, the grisly and the black; both alike producing at times brown or cinnamon varieties, with every intermediate shade from, at the grisly end, silvery grey to chocolate or rich yellow-brown, and from yellow-brown to jet black at the other end. The large black bear in the Gardens, presented by Mrs. Hugh Garrison, is distinctly rusty in colour and widely removed from the intense and glossy blackness of the typical form. Pale cinnamon and black cubs are sometimes found in the same "black" litter, and cinnamon and silver-grey in one family of grislies. Further, the American grisly is in its structure practically indistinguishable from the European brown bear, while the American black bear shows obvious relation-

ship through the hairy-eared bear of North-Eastern Asia (a handsome specimen of which is in Regent's Park, presented to the Society by Mr. F. Ringer) to the Himalayan and even the Japanese, both of which are to be seen in the Gardens. The Isabelline bear, again, or Asiatic "red" bear, is also indistinguishable from the European brown species, of which it is often considered to be only a local race not specifically distinct, and, as will be seen from the specimen presented by Major Whatman, its colour varies so much from the normal deep brown of the adult European bear that it becomes almost as creamy a grey as the Syrian bear. Thus it would doubtless be theoretically possible to obtain a series of skins exhibiting every gradation of tint from black to white, and ranging by inches from under 4 ft. to over 9 ft. in length, which it would be quite impossible, whether by size, colour, or texture, to apportion among the species.

In old literature bears constantly appear as the emblems of surly uncompromising ferocity ; they are the "bloody bears," "cruelly fanged," that "live by rapine"; but it is not the polar bear only for which familiarity and the possession of improved firearms have bred contempt. Mr. Lydekker, speaking of the Asiatic brown bear, says that "to the beginner bear-shooting is exciting enough, but it soon begins to pall." Mr. Roosevelt tells of men who habitually hunt the American black bear with dogs, which bring it to bay, when the huntsman goes in on foot single-handed and kills it with a knife. Woodmen have not seldom killed the

Grizzly Bear

Isabelline Bear

European bear in a single combat with their axes. Eskimos run the polar bear down with dogs and kill it with a spear, two hunters working together by preference, one to distract the animal while the other gives the fatal thrust; but one man often accomplishes the feat unaided. Cowboys on the Western plains, if they find a grisly in the open, lasso it, and cases are on record where one cowboy has roped and killed a full-grown grisly alone. Many American bears, grisly and black, have been despatched with revolvers, and Mr. Roosevelt quotes one instance of a cavalry officer's riding in on a grisly and killing it with his sword. The same authority, however, says that he has personally known eight cases of men killed by wounded grislies which they had followed into cover, and asserts that horses are more afraid of bears than of any other animal, while Colonel Pollok similarly declares that elephants fear bears more than they fear tigers.

On the other hand, it was on old belief (quoted by Mr. Hulme) that bears are equally afraid of horses: "If you will drive away bears, a horse hath a capital hatred with a bear; he will know his enemie that he never saw before and presentlie provide himself to fight with him, and I have heard that bears have been driven away in the wildernesse by the sound of a drum, when it was made of a horse's skin."

Another interesting piece of bear lore, given by the same writer, is a simple prescription for curing "fitts": —"Take the furr of a living bear's belly, boil it in

aqua vitæ, take it out, squeeze it, and wrap it upon the soales of the feete." But the man who went to scrape the fur from the belly of a living bear might reasonably be expected to be able to dispense with any further formalities.

It is a pity that among the old notions of bears which have to be discarded in the light of larger knowledge is that they kill their prey by hugging it—"a lovely death," as Mr. Emanuel's young lady said. All bears seemingly follow the same fighting tactics, attacking first by striking with their paws and then, on coming to close quarters, endeavouring to clutch the adversary with their claws and draw it within reach of their jaws. This act of pulling an enemy, dog or man, close up to the chest to bring the teeth into play might easily be mistaken for hugging and doubtless gave rise to the belief. How handy bears are with their paws may be seen any day in Regent's Park. The little Malayan bear (of which there are two in the Gardens, one presented by Mrs. Jephson and one by the Marquis of Downshire) prefers, when eating anything of which it is fond, to lie on its back and hold the food above it in its paws, a habit which it is conjectured to have acquired from experience in eating honey-comb. If it put the comb on the ground and ate it in the ordinary way, much of the honey would leak out into the soil and be lost; whereas by lying on its back the bear converts its own body into a sort of basket or saucer, catching the drippings on its chest and stomach, to be licked off at leisure. The grislies,

reared up on their hind legs against the bars, reach out both fore paws to grasp between them bits of bread or bun held out to them on the ends of walking-sticks and umbrellas, when, having gripped the food between, as it were, the palms of their hands, they draw it close to the bars and somehow dexterously shovel it into their mouths.

Every visitor to the Gardens, too, knows the grisly's trick of rattling the loose rod in its cage-front to call the attention of the public to its presence, while on the other side of the partition its neighbour, another grisly, strives to out-bid it in notoriety by rasping its long claws down the side of its cage. Like rival traders, most of the bears have adopted some special way of advertising themselves to visitors, each endeavouring to get its share, or more, of the public catering which is going on. Which is admirable—but not a little sad.

Ursus ferox, *Ursus horribilis*: hard names to give even to so thick-skinned an animal as a grisly bear. But when North America was still a wilderness and bears had not learned their fear of man, to the lonely pioneer, armed at best with a single-barrelled muzzle-loader, one can well imagine how fearsome a thing the grisly was, as it lifted its huge bulk above the fallen logs or brush-clad boulders in the half-light of a mountain thicket.

It may be true that to the modern sportsman, armed with the latest big game rifle, the chief difficulty in grisly-killing is to find and stalk your bear. Once within good range, the rest should be easy. It was

otherwise when man was feebly armed and the instinct of fear had not been bred into the race of bears. Nor were the other bears of Asia and of Europe much less terrible than the grisly to unarmed men; and, even as one laughs, it is impossible not to be conscious of the pathos of seeing "the dog of God," with all its legendary terrors, lord of the storms, whose very children were tempest demons, setting its great rough wits to learn little huckstering tricks and reduced to fumbling with its death-dealing claws for crusts and bits of bun from the tips of parasols.

One is almost glad that it is a trick which some bears in the Gardens can never learn.

IV.—Of Wolves and Dogs.

It is recorded that once upon a time a pack of wolves raided a monastery and punctiliously ate each monk whose opinions smacked of heresy, the brothers who were theologically sound being left unscathed. Let this act of pious discrimination then be set to the credit of the wolves at once, for most of their record in what is to follow will be found black enough.

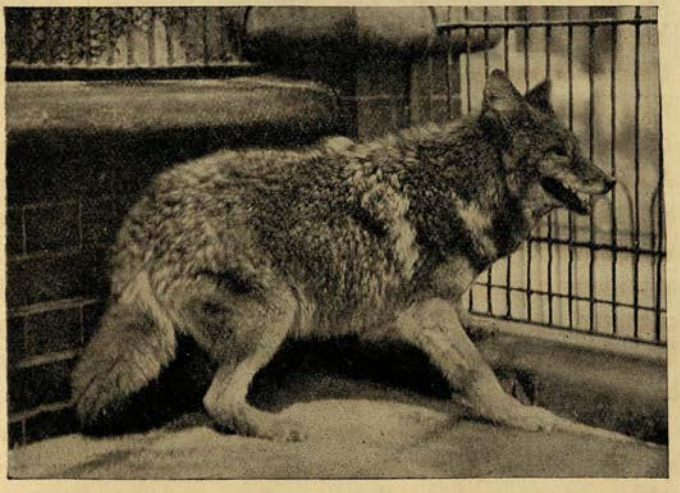
The lion, with all its shortcomings, stands not unworthily for the majesty of beasthood. We use the tiger as an image of reckless courage; even the bear, however surly, has a certain blunt, bucolic honesty which makes it almost a gentleman. But the wolf, the "blood happy" wolf, for all that it suckled Romulus and was the companion of Odin, represents nothing but cowardice and skulking cruelty. In Holy Writ, whether in the Old or the New Testament, it appears always in one of two lights, either as the "evening wolf" and "wolf of the evenings" or as "ravening." And these two phrases sum up fairly the wolf's character.

In daylight it keeps as a general rule in hiding, and almost any hole or crack in earth or rock or ruined masonry will serve it for a lair. As twilight darkens to night—*entre chien et loup*—when its grey form slips

by on silent padding feet invisible, it comes out to hunt, whether singly, in pairs, or with the pack, and then to all things weaker than itself it becomes ruthlessness personified, killing where it can, as among a flock of sheep, far in excess of the amount that it can eat. And, like many bullies, it is, when left to its own resources, a coward. Almost every animal when at bay will fight at the last with desperation; but there is abundant testimony to the fact that a wolf, when finally cornered so that it knows escape to be hopeless, so loses heart that often it will cower and suffer itself to be killed without resistance.

On the other hand, when hunting in company, so strong is the pack-instinct, the individual wolf not seldom seems to lose all sense of its particular danger, throwing away its own life with apparent indifference, as if conscious that only so can victory be won for the pack as a whole; and in the days when almost every beast was held up as an exemplar of some human virtue it is perhaps curious that no apologist was found to glorify the wolf as the type of a self-sacrificing citizen—the Curtius-patriot ready to fling himself to death for the common good. But it is a poor kind of courage which has to be forced into being by the backing of overwhelming numbers. The pack, however, takes its heroes to itself, seldom failing, even at the risk of delaying the general assault, to eat the comrade who has devoted himself to the people's cause.

How terrible a thing the wolf-pack may be is perhaps best illustrated by the story that in 1812 a party of 24



Prairie Wolf or Coyote

"Blanca," Timber Wolf

French soldiers was rushed by a veritable wolf-army. The men are said to have sold their lives dearly, killing between two hundred and three hundred of their assailants, but in the end they were overborne and nothing was left of them but some bones, their arms, and scraps of uniform. Mr. Roosevelt records that the great grey timber wolves of North America, when in sufficient strength, will pull down even the grisly. So Thomson :—

> Assembling wolves in raging troops descend
> And, pouring o'er the country, bear along,
> Keen as the North wind sweeps the glossy snow.
> All is their prize. They fasten on the steed,
> Press him to earth and pierce his mighty heart.
> Nor can the bull his awful front defend
> Or shake the murdering savages away.

Not without reason was January once the "wolf month"—the time when, pressed by hunger, the wolves gathered into the largest packs and swept out to scour the frozen country on their tireless feet. Woe then to horses, sheep, or cattle left exposed, and to the traveller whom the pack might find too far from shelter :—

> Woe to the broken door!
> Woe to the loosened gate.
> And the groping wretch whom sleety fogs
> On the trackless moor belate!

Nor without reason was it that in Scotland they prayed, "From wolves and all other kinds of wild beasts, deliver us, O Lord!" From Scotland wolves seem to have been exterminated by the end of the

17th century, and records of the killing of the last wolf remain—indeed, it is to be feared, of more than one "last wolf." In Ireland they lingered into the early decades of the eighteenth, about two centuries after they had disappeared from England. The history of the wolf in the British Isles has been traced in detail by various writers, notably by Mr. Harting, and has been recently summarised by Mr. Millais in his "Mammals of Great Britain and Ireland"; so that the chief features of the story are well known—what efforts Edgar made to put an end to the scourge and how he exacted an annual tribute of 300 wolf-skins from the Welsh king; how refuges or "spittals" were erected in various parts of both England and Scotland, where travellers might take sanctuary from the wandering beasts; how Mary Queen of Scots took part in a great wolf-hunt, letting slip the hounds herself. Many lands were granted at divers times on wolf-head tenure. Laws enacted that Barons should assemble all people within their baronies to hunt the wolves three, or sometimes four, times a year, and any man who failed to turn out at the summons was fined. The reward for killing a wolf varied at different times and in different parts of the kingdom from two shillings to a living ox; or again it was a sum equal to one penny for every resident in the parish in which the beast was killed.

How serious and how common were the depredations of wolves on the flocks in the old days is sufficiently shown by the story which has made the phrase "To cry

'wolf!'" pass into a proverb; and similarly "keeping the wolf from the door" is doubtless the translation into metaphor of an experience which was once all too familiar. And the picture which it calls up is a terrible one:—the family huddled terror-stricken within the lonely cottage listening to the pattering of feet on the frozen ground without, while now and again the frail door shook as a beast sniffed hungrily below or leaped against it in the hope of forcing an entrance. One can almost imagine that it was the horror of such experiences which caused in ancient Greece the phrase "to see a wolf" (λύκον ἰδεῖν) to become current as a synonym for being stricken dumb. When the bison herds still roamed the American prairies, wolves hung about the herd on its travels in the hope of picking up an erring calf; but it is a curious fact, in which all observers agree, that the wolves wandered at will among the herd when scattered to graze, apparently unnoticed by the adult bison. Akin to this, perhaps, is the extraordinary indifference which hares and rabbits sometimes show to the proximity of a fox in plain view.

That the individual wolf may be a beautiful animal any one can satisfy himself by looking at "Blanca" and "Lobo," the two splendid North American timber wolves now in Regent's Park, presented to the society by Mr. William Ruston. Even at seasons of the year when they are out of coat they are extraordinarily handsome beasts, and a son of theirs in the next cage is perhaps as fine as his father. When they are excited, as at the prospect of food, their grace and elasticity,

the ease with which they spring ten and twelve feet up the sides of the cage to land again almost noiselessly on their feet, put even the suppleness of the great cats to shame. One understands then something of the terrible speed at which the wolf-pack can cover ground.

The present writer, on a fastish pony, once tried to cut off a timber wolf which crossed a plain in daylight —a good fair race of about equal distance to the hypothetical meeting point. The wolf was well aware of what was in progress, but beyond swinging off obliquely to make the race a trifle longer, it made no effort to escape by direct flight, nor did it seem to hasten its pace from what looked like the most leisurely of canters. But it had a good three hundred yards in hand at the point where the courses crossed. So leisurely and effortless does the wolf's gait look that it is difficult, except by putting it to some such test, to believe that it travels at any great rate of speed. Colonel Percy says that "a wolf in the evening, when empty, will lope along just ahead of good greyhounds till the latter lie down exhausted." None the less, wolves are run down by dogs.

In the United States packs are trained especially for wolf-hunting, consisting generally of a mixture of greyhounds and either wolf or stag hounds. When the wolf is started, the pack dashes after it and the greyhounds, if the quarry has not too long a lead, draw up to it quickly. The first hound to reach it is expected to snap once and instantaneously swerve outward, when, as the wolf turns after it, another hound,

drawing up on the other side, snaps and swerves again. Again the wolf swings towards its new assailant and is momentarily delayed, giving time for the first hound, or another, to repeat the same manœuvre. So the running fight goes on, the wolf being checked and hampered till the heavier hounds come up to do the killing,—an operation considerably more serious than the killing of a fox by a pack of foxhounds, and it is rarely that at least one of the dogs is not seriously hurt.

Sometimes packs of stout greyhounds alone are used, and in Russia borzois are similarly employed and are said to overhaul the beast without much trouble. But no dog would live with a wolf in a day-long run.

Tales of the wolf's craftiness are numerous enough, as in the well-known nursery story of the wolf which dressed itself in a sheep-skin and so got itself folded with the flock for the night. In hunting, the pack often shows evidence of combined and seemingly well-planned action—Mr. Phillips-Woolley telling of a pack in the Red Forest which deliberately surrounded a herd of roe-deer on all sides, and then converged simultaneously on the common centre.

Seeing the wolves in the Gardens being fed, one understands, too, why it is that we speak of a man as "wolfing" his meals. The wolf has a reasonably catholic taste in foods, but it seems absurd that it should exhibit any preferences whatever; for a lump of meat larger than a man's fist makes no more check on its way down a wolf's throat than a letter does

when dropped into a pillar-box. It is a method of feeding made necessary by the habit of hunting in packs, when every member of the pack is probably hungry, and seldom is a kill large enough to furnish a meal all round. In such circumstances the individual wolf has no time to trifle with its food, and the animal which wasted time in chewing would soon die of starvation.

Watching the performance (it has all the appearance of a trick which has been carefully rehearsed) one knows how the wolf in Grimm's story came to swallow the young kids whole, so that the mother-goat, finding the destroyer of her progeny asleep, cut him open and released her children alive, filling their place with stones. We know also why, in Scandinavian myth, it was in the form of a wolf that the water-demon, brother of Hel, swallowed Odin—nay, how the Fenris wolf and Skoll wolf between them gulped down the gods and the firmament together. Provided the wolf were big enough, there is nothing that it could *not* swallow whole and instantaneously.

Yet the chief horror of the idea of being torn to pieces by wolves lies perhaps in the thought that death comes, as it were, piecemeal. Certain Red Indians in the south-west portion of the United States are credited with the invention of an ingenious method of disposing of their prisoners, whereby they merely stake them out, pegged down by wrists and ankles, starfish-wise, upon the ground in the immediate vicinity of an ants' nest. The ants can be trusted to do the

rest and to do it with expedition. There is something of the same terror, as in the case of a bound man eaten alive by rats, in the mental image of death at the jaws of a pack of wolves. The lion, the tiger, all the large cats, and the bear kill, as it were, outright, primarily with a crushing blow of the paw, and using the teeth only secondarily and as a reserve. But the wolf can deal no killing blow with its paws, and it attacks first with the teeth and kills by biting, or rather by snapping and tearing; and where a pack pulls down some large animal, like stag or horse or ox, one may well believe that before the thing is dead it is already partly eaten, many pieces having already been torn from it and immediately swallowed.

But the universal human hatred of the wolf has rested not so much on the fact that, "assiduous in the shepherd's harms," it kills other animals, or on its method of killing them, nor even upon its occasional waylaying, when "fierce descending" in the pack, of of men and women. In the folk-lore and legend of almost all countries it is invested with the two awful attributes of being an eater of babies and a spoiler of graves.

> He climbeth the guarding dyke,
> He leapeth the hurdle bars,
> He steals the sheep from the pen
> And the fish from the boat-house spars;
> And he digs the dead from out the sod
> And gnaws them under the stars.

More than one writer has defended the wolf against the accusation of grave-robbery, and certainly its paws

are ill-adapted to digging; but the indictment turns up in too many places, among peoples too wide-sundered, to encourage a belief that is without foundation. Certainly in North America wolves used to do their best, sometimes with success, to rob, by scratching up or gnawing through the uprights, the Red Indian cemeteries, in which the dead were (and in some places still are) exposed on a frame or litter raised on poles some feet above the ground.

That the wolf eats children, not only in myth, as the fearsome wer-wolf or *loup-garou*, but in actual life, is only too well authenticated in other countries besides India. But let the author of "In My Indian Garden" tell the story:—

> A nurse lies sleeping on the floor, her charge asleep in her arms. The wolf listens . . . . A house-dog far away is answering defiantly the maniac jackals sweeping past him in full cry. Then the wolf bends its furred head and with its thick, warm tongue licks the baby out of its nurse's arms. The poor woman feels the gentle warmth, unconsciously presses the baby closer for a moment, but her grasp begins to relax. The moist, soft touch of the wild beast's tongue, its bated breath, melt her fingers open. One by one they loosen their guardian hold, the wrists sink apart, and gently from her bosom the baby slides back against the soft coat of the crouching wolf. It does not wake. The wolf rises . . . . The house-dog wonders if that was really something which passed between him and the garden wall—thinks not—growls angrily, and turns to sleep. But ask the owl sitting on the vinery what it sees that it turns its head over its back. Ask the wheeling bats! . . . . Next harvest a little skull will perhaps be found in the corner of the field, if the jackals have not already rolled it back to its father's door.

Thus it is, by the destruction of children, that in India every year the wolf is responsible for the deaths of more human beings than the tiger. Not that it

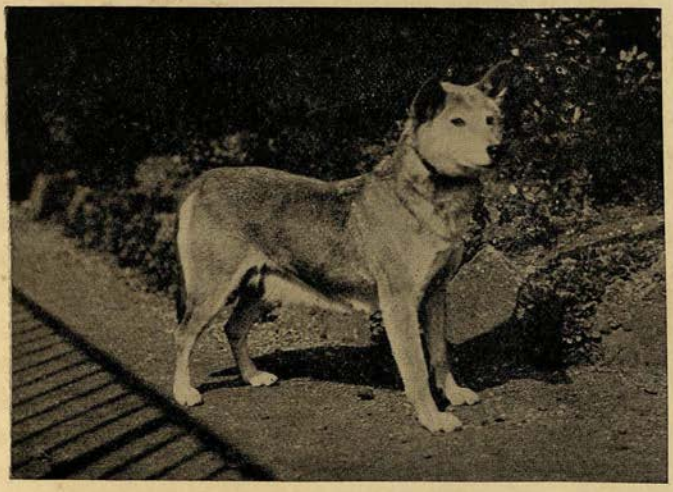
does not, especially when in company, sometimes attack adults; and horrid tales are told of how in famine times, when the natives are too weak to defend themselves, the wolves grow bold and come out in daylight to kill and feast on men and women. It is a comfort to read in old writers that wolves are very much afraid of hedgehogs.

No; for the sake of its cousinship to the dog, for the beauty of Blanca and Lobo in their Zoo cages, for its guardianship of the head of St. Edmund, for the part it has played in legend in many characters besides that of "the thunder-stricken nurse of Rome," one would speak pleasantly of the wolf if one could. It is true that sometimes wolves are tamed and prove faithful to their masters, and that in folk and fairy tale they often figure as the dull-brained fools who are outwitted by the fox, but never in such a way as to excite sympathy with the wolf, which, in story as in real life, is always cunning, if less cunning than the fox, always treacherous, and always cruel. Always, too, it comes to a bad end. And when that end comes we can but fall in with Grimm's kids who "danced round their mother for joy, crying 'The wolf is dead! The wolf is dead!'"

The wolf's cousins—all the miscellaneous wild dogs and jackals and foxes—are not, perhaps, relations to be proud of, though it might be argued that they are at least good enough for a wolf, who, after all, has no great reason to give himself airs. Yet on the domestic side

—one is almost tempted to say, on the distaff side—the wolf has connexions of the best; for while the evolution of the various breeds of dog is a subject bristling with perplexities, there is no doubt that all alike, from griffon to St. Bernard, have come originally from some member of the wild dog-wolf-fox family, having themselves been crossed and crossed again till it may be that the dog which lies by your fireside has in its blood a strain from the wild Canidæ of all the continents. The dogs of many primitive peoples are still only domesticated races of the wolves or jackals of the locality, the Eskimo dog being barely one step removed from the Arctic wolf, just as the dogs of some of the American Indians further south are obviously no more than direct descendants of the timber wolves and coyotes of the neighbourhood, with which they still freely interbreed.

He would indeed be a rash naturalist who would undertake to draw a definite line of demarcation between the wolves and jackals, the dogs and foxes. In the former case such a line would probably have to run somewhere through the cranial cavity of the Indian wolf (*Canis pallipes*), and in the coyotes or prairie wolves here in the Gardens one may see how visibly the animal has tended to become a jackal. Of the three adult prairie wolves in these cages, one is so unjackal-like that it is doubtful if it can be pure coyote at all. American naturalists, it is true, have split the coyote up into a number of so-called species where we should recognize at most no more than local races, to one or



Dingo

Cape Hunting Dog

other of which it may be that this curious animal could be definitely referred ; but there is that in its length of limb and large-jointed freedom of movement which is strongly suggestive of a strain of timber wolf. How narrow, again, is the gap which separates dogs from foxes can be seen from the two crab-eating dogs from South America, which no non-expert visitor to the Gardens would dream of calling anything but foxes—as indeed until recently they were officially labelled on these very cages.

It is roughly possible, by the cranial structure, to divide the whole dog family into two, what may be called respectively fox-like and wolf-like groups, but there are points where the distinction becomes perilously uncertain ; and it would be interesting to know how and in what country the first individual split off from whatever was then the common dog-wolf stock to develop ultimately into a true fox with a character which is almost half-cat.

Some female, perhaps, heavy with young, fell out from the pack early in the long chase of whatever was the member of the deer tribe of those days and countries ; or it may be that, for some violation of the pack-code, she was driven out, and saved herself from being torn to pieces only by finding shelter in a hole. There in solitude she became a mother, and in solitude, unable of her own strength to pull down such quarry as the pack had commonly hunted, she learned to live on little things, on lizards and insects and mice ; and her young, as they grew up, hunted as they saw

their mother hunt. Instead of standing up and, as in the old pack-fashion, running down their game in open chase, they learned to crouch and crawl, cat-like, close to the ground, to spring out suddenly upon the nibbling coney or the sitting bird, returning always to the hole which had saved their mother from the jaws of the pack.

As generation succeeded generation, the family became confirmed in its solitary ways as a tribe of earth-dwellers, hunting under cover. Slowly they lost the stiff, rudder-like tail of the old hard-running days and developed ampler brushes, comfortable, perhaps, to wrap round their noses in the cold earth; which brushes also they learned to switch like a stalking cat. Having need now mostly of silence, no longer holding communication with their fellows, they forgot the old hunting song of the pack, and the former full-throated howl came to be abandoned for a short yapping bark, sufficient for a signal, but which they used so seldom that they came in time not only to hunt and fight but, as the fox does to-day, even to die mute.

It is only conjecture, and conjecture to which many objections can be raised. But somehow or other they have all—wolves, jackals, hunting dogs, tame dogs, and foxes—come from the one common stock.

There are some who believe, though the evidence seems against them, that certain of the wild dogs, like the Australian dingo—"yellow dog dingo, always hungry, dusty in the sun"—are reversions to the wild state of a race once tame, just as the pariah dogs of various countries have travelled half the road towards

becoming wild animals again. As one sees the dingo here in the Gardens, it looks not merely like a domesticated dog, but like a dog of a distinctly engaging and amicable kind. It is to be noted, however, that the dingo howls, as a wolf howls, while the Cape hunting dog barks dog-fashion. Of the fact, well known to all Australians, that the dingo will breed freely with domestic dogs of various sorts, there was, last summer, evidence enough in the person of an entirely deplorable pup which shared the cage with its parents. A certain eminent living statesman possesses a favourite dog which he commends as being "of several excellent breeds." In the tangled pedigree of this puppy, though its father and mother are both outwardly good dingoes, there must have been interwoven many kinds of dog. Its mother has now been removed to another cage and her place supplied by a new arrival, who in her redder colouring and broader muzzle is perhaps a more typical representative of the true wild breed, while the discreditable pup has gone to a private home in Devonshire, where, as it grows up, it is to be hoped that the traits of its tame ancestors will outweigh those of its wild.

For the dingo's character belies its gentle looks. "Quarrelsome, sly, and treacherous," an Australian naturalist has called it. So sly it is that, according to Mr. Beddard (in "The Cambridge Natural History"), it feigns death "with such persistence that an individual has been known to be partly flayed before moving"; and so treacherous that in the days when

dingoes were more commonly kept as pets by the colonists than, as a result of bitter experience, is the case to-day, it was no unusual thing for the dog which had been brought up with every tenderness from puppyhood to turn suddenly on its master or mistress, or, what was more frequent, when left in temporary charge of an empty house, to seize the opportunity to raid the sheep-fold or the poultry-runs. On such occasions it "ravens" even as the wolf, killing not to satisfy its hunger, but in the unrestrainable fury of a brute instinct, so that, given time enough, it will not leave one fowl or one sheep alive. That it does not need much time, moreover, is shown by the statement of Mr. Thomas Ward, that "one dingo in the course of a few hours has been known to destroy several score of sheep." For its fighting ability the same authority ("The Rambles of an Australian Naturalist") declares it to be a match for most domestic dogs of double its size. When wild it hunts in packs, which are said sometimes to include as many as a hundred individuals, though from six to a dozen is the common number; and the only Australian animal which it is uncertain if the pack can ever pull down is (in spite of Mr. Kipling) the "old man" kangaroo.

Similarly, the hyena-like Cape hunting dog (a specimen of which may be seen here in these cages) is said at times to gather in very large packs; but the largest which Gordon Cumming saw ("A Hunter's Life in South Africa") numbered 40, and that pack he watched kill a koodoo. Mr. Vaughan Kirby also saw a koodoo

Black-Backed Jackal

killed, while Mr. Selous records an instance of one dog, single-handed, tackling a sable antelope. On another occasion, Gordon Cumming saw four dogs pull down a brindled gnu; and these he believed to be the largest animals which the African dog ever kills, questioning their ability to handle a buffalo. On the other hand, the Asiatic red dog or dhole (if it be safe to speak of it as a single species), the largest recorded pack of which is said to have numbered 30, appears beyond a doubt at times to attack and kill the tiger; and one is inclined to doubt whether such negative evidence as that the Australian and African dogs have not been actually known to kill respectively the "old man" or the buffalo can be accepted as conclusive. Eskimo dogs, nominally tame, have more than once been known to tear human beings to pieces; and if wolves can pull down grislies and dholes cope with a tiger, it is difficult to believe that any living thing could in the long run hold out against a pack of 40 hungry and desperate Cape hunting dogs. Mr. Lydekker says that the Asiatic dog sometimes kills the domesticated buffalo of India.

It is perhaps curious that, as far as can be discovered, there is no record of a white man being killed by African wild dogs, though it is asserted that they do sometimes attack and prey on natives, who are much afraid of them. In some parts of Africa dogs are still very numerous; and a friend who has shot much in the Upper Soudan, whose information I trust, tells me that once when alone he found himself suddenly in the presence of a pack which he estimated to number about

40. He thought that the end of his hunting days had come, but began using his rifle as rapidly as possible. The dogs seemed bewildered and not to understand what was happening or precisely where the danger came from, with the result that, firing over 20 shots, he killed 15 of them before they drew off without attempting to attack him. A companion heard the fusillade from some distance away and wondered what it was all about. Turning to find out, he fell in with the unlucky pack in a narrow gully and disposed of three more of its numbers. Wounded dogs were seen to be dragged off by their comrades into the bush —less, doubtless, in any spirit of comradeship than for gastronomic purposes.

Many hunters have had similar experiences, but, when the man chooses to take the offensive, the dogs are so quick and keep so constantly in movement that the killing of so many in one pack is probably unique. Gordon Cumming tells how he awoke in the middle of the night to find himself surrounded by dogs "chattering and growling with extraordinary volubility." As they dashed about him on all sides, "I expected," he says, "no other fate than to be instantly torn to pieces and consumed"; and his only chance seemed to lie in the possibility of their being afraid of the human voice. So he rose to his full height and, "waving my blanket and addressing them in a loud and solemn manner," so astonished them that they went off and left him in peace. Mr. Abel Chapman speaks of finding himself with a companion in the

middle of a pack which "kept bounding up among the bushes on every side," offering such difficult shots that the hunters only succeeded in bagging one. He agrees with the narratives of other sportsmen who report that the dogs seem to be more puzzled than anything else at the sight of man (at least of white man), and says that they were "apparently interested rather than alarmed at our intrusion."

A doubt has been suggested above whether there may not be more than one species of dhole or Asiatic wild dog, for it is uncertain that the Malayan race is the same as the Indian. It may be also that there are other quite different species yet to be recorded. Colonel Pollok, in Burma, saw two presumably wild (though at the time captive) dogs which seem to have been of more or less badger-like habits, "as hairy as Skye terriers, as large as a medium-sized spaniel, and black-and-white." The Cape hunting dog, again, varies much in coloration in different districts, so that there are those who would divide it into several species; but allowing for all known varieties of tint, one's curiosity is still piqued by the mention by Colonel Patterson of the dog which he saw near Tsavo, "bigger than a collie, with jet-black hair and a white-tipped bushy tail."

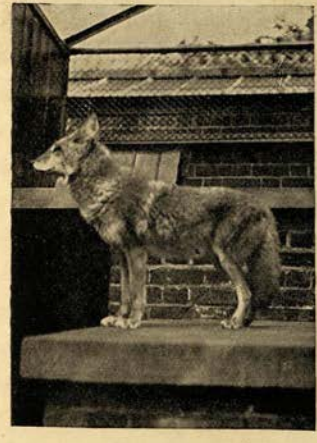
But without any additions from fancy these cousins of the wolf are numerous enough. Besides the various dogs there may be seen in the cages at the Zoo a dozen foxes representing half as many species,—silver-grey and silver-backed foxes, desert and Indian desert foxes,

Arctic foxes, and, not least, common foxes, among which is one white variety. In addition there are the jackals, "the thin jackals," Asiatic and North African, with seven specimens of the latter alone, from Egypt, from Morocco, and from Mogador. And probably if the wishes of the wolf were consulted, of all his relatives he would dispense most cheerfully with the jackals.

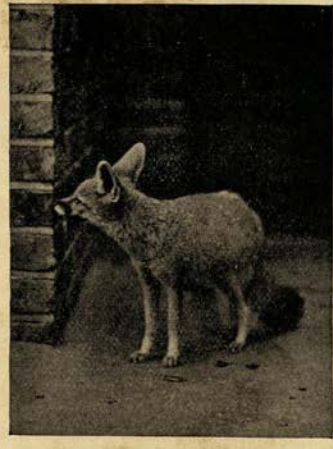
Few people have been found to say a good word for Tabaqui. The "filthy jackal," Byron bluntly calls it. The Wolves' and Foxes' Dens in the Gardens are built double-sided, so that the animals pass freely through the central partition to one cage or the other; and doubtless many visitors daily go up one side and down the other and depart under the impression that they have seen twice as many beasts as they have. With two or three exceptions, where it has been necessary to divide a den in half by shutting the middle door, one can see all the animals from either side; and the sagacious visitor will generally choose to see them from the windward. None of them is savoury—wolf, wild dog, fox, or jackal; and in the combined aroma it is not easy to say which animal is responsible for what proportion of the smell. But of the whole tribe it is probably the jackals which smell most industriously.

But for that drawback, and it is an ineradicable one, the jackal would make a not unattractive pet, being easier to tame and likely to be more reliable than either wolf or wild dog. Wild or tame indeed the jackal is—a jackal.

Common Fox



Coyote



Silver-Back Fox

Be you the lion to devour the prey
I am your jackal to provide for you.

And it is a fact, not literary fancy only, that the jackal lives largely on the leavings of others, whether it be on the rubbish and offal thrown away by man or on the meat of game killed (as in India by the tiger) by other and larger beasts.

Of their own initiative it does not appear that jackals normally kill anything more formidable than hares and rabbits, ground-nesting birds, though wounded or ailing animals, like deer or antelope and sick sheep and goats, often fall a prey to them. Of all the dog family, besides being most odoriferous, the jackal is also the most noisy, and those who have once heard the sudden clamour of a pack of jackals breaking upon the silence of an Indian night will never forget it. Kindly Bishop Heber, it is true, spoke of it as "sylvan revelry"; but most Anglo-Indian writers are less generous:—"The crash of a brass band bedevilled; each throat a fiend's, every fiend double-throated."

In Holy Writ the word "fox" in the English version should in all probability be more often read as jackal. The "little foxes that spoil the vines" may refer to either fox or jackal, but the animal of which Samson caught three hundred "and took firebrands, and turned tail to tail, and put firebrands in the midst between the tails. And when he had set the brands on fire, he let them go into the standing corn of the Philistines, and burnt up both the shocks and the standing corn, and the vineyards and the olives"—that animal

was, as the Rev. J. G. Wood argued, almost surely a jackal, of which it was then, and would be still, in that locality, more easy to catch three hundred than to take thirty foxes.

But of all these miscellaneous dog-things in the Wolves' and Foxes' Dens, it is curious that the one in which the general public shows most interest is the common English fox. It looks here, beside the wolves and hunting dogs, a poor, scurrying little thing; yet there are few questions more often asked of the keepers in the Gardens than: "Can you tell me where I can find a fox?" The Zoological Gardens are educative in many unexpected ways; and it is here that tens of thousands of Englishmen, and not town-dwellers only, get the one opportunity of their lives to see a living fox.

V.—Of Elephants.

The way to see the elephants is to choose some grey hour, either when the day is closing in or when clouds and rain serve the double purpose of making almost a cathedral light within the Elephant House and of keeping other visitors away. Sit, then, on one of the benches which are set back against the wall, and if you choose your seat rightly you will have four elephants before you in plain view at once. Not a sound comes from them, but they are hardly ever still. Occasionally one may for a while become immobile as if sleeping, but it is only for a minute or two; for the rest all are constantly on the move, rocking, swaying, shifting uneasily from foot to foot, switching their tails, twitching their great fan-like ears, their trunks swinging almost ceaselessly. Look at them now through half-closed eyes, and in the silence and the dim light, as the huge bulks heave and oscillate, it needs no great stretch of the imagination to see that the thick upright poles which make the cage bars are really tree trunks and the shade is the shade of forest branches overhead.

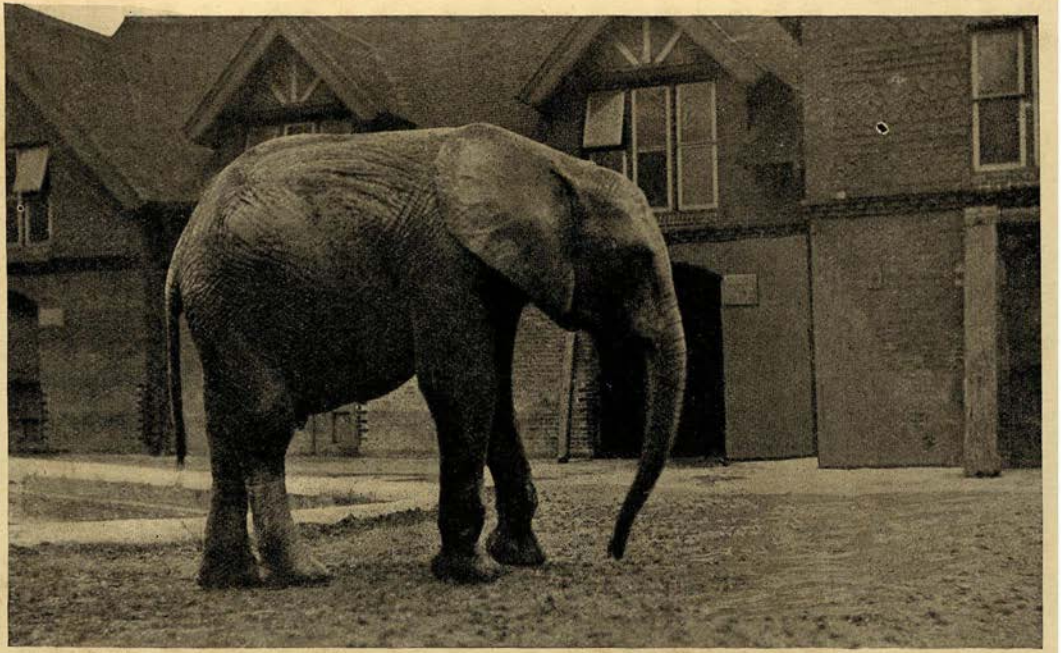
Out there amid the crowds by the Great Lawn and the Bandstand, the elephant is, for all the majesty of its "voluptuous gait," no more than a plaything, a sort of animated vehicle; but these in here, undistracted

by the presence of the public, have forgotten that they are captives, and they rest unconcernedly as in some deep covert among the Indian hills, wild things again leading

> their quiet lives
> Among their old contemporary trees.

It is an experience worth trying. You begin to feel that, with Mulvaney, you are "by way of bein' acquaint wid an elephint mesilf"; and, indeed, you might go elephant-hunting for many years without getting so good a view of four of the great "serpent-handed ones" at their ease together.

Such scenes as those of which Captain (afterwards Sir) Cornwallis Harris tells in his "Wild Sports of Southern Africa," where on one occasion "the whole face of the landscape was literally covered with elephants," are not for every sportsman nowadays. The African elephant, it is true, is more often seen in the open and in numbers than its Asiatic relative; for the latter is no lover of the sunlight, but prefers the shadows of the forest thickets, where its great body is often so hard to see that Colonel MacMaster tells how once he waited for some time "within *a few feet*, not yards" (so it is written) of a huge tusker, "unable to see anything more than an indistinct dusky outline of the form," until at last the elephant took alarm and, bolting, made good his escape. General Hamilton records how, when a party of hunters were creeping in Indian file upon a herd which they knew was close at hand, a cow elephant, hitherto unseen, thrust out



African Elephant

her trunk and blew at the chest of the leading man so suddenly that he fell back into the arms of the man behind him. The African elephant in many districts haunts not the forests but open expanses of thick scrub or grass, no higher than itself, so that its back remains exposed to all the heat of the tropical sun ; but even then, so dense sometimes is the scrub or grass that, writing of East Equatorial Africa, Mr. Nuemann says :—

> In such places you may hear and even smell the elephants ; but unless you approach within a few yards you are not likely to see them. And even when, by perseverance and caution, you have arrived almost within arm's reach, perchance only a foot, a forehead or a waving ear may be visible.

As showing how easy it is for even a number of elephants to exist unseen in the tropical jungle ("as easy as for a rabbit at home") Mr. Chapman cites the case of "two Englishmen who had gone snipe-shooting on a marsh bordered by narrow belts of heavy reed. For some hours they had been shooting away merrily, when from these reeds there emerged a whole herd of elephants quietly moving off in search of a less noisy siesta."

Even when not screened by any cover, in spite of its size, and, indeed, often largely by reason of it, the elephant may be extremely difficult to see under the shadow of trees, the eye failing to take in the whole contour of the animal or to recognize it for what it is. Mr. Phil Robinson has illustrated this difficulty of grasping a whole elephant at once in his delightful

story of how "Tots" discovered the elephant whose quarters it shared. Tots was a dog—a very small dog—and in exploring its surroundings it was not slow to alight on one of the elephant's feet. In course of further excursions it found the others; and each of them, for all their agreeable, if strange, mammalian smell, it concluded to be either tree trunks or in the nature of architectural features of the environment. The long pendulous thing, which came down from above to tickle its back and blow its hair about, also was obviously something independent, a human contrivance perhaps, of no more than indifferent interest. So the dog continued to run unconcernedly about and beneath the great beast; and the great beast occasionally tickled and blew upon the dog, to the great admiration of those who looked at what they considered this novel friendship. But the time came when the elephant took it into its head to lie down, when it was borne in upon the dog that they were all parts of one thing—legs and pendulous trunk and the whole huge bulk above—and that that thing was alive! And the discovery came near to unhinging the intellect of Tots.

The story one suspects to be fancy; but it may be questioned if some of the children who see the elephants in the Gardens entirely grasp the fact that it is one comprehensive living beast and whether they view the trunk which they caress much otherwise than as the off-horse of an omnibus. One sympathises with the Londoner who, when the elephant reached its trunk

towards him, took it and, putting the tip to his lips, called down it, "Hello! Are you there?"

Happily, however, if the elephant is hard to see, it is, though possessed perhaps of the finest sense of smell of any animal, itself short-sighted. Were it not so, elephant shooting on foot would, as Mr. Neumann says, be "almost equivalent to suicide." Many a sportsman has owed his life to the fact that the great beast, infuriated and searching for his enemy, was unable to distinguish him from surrounding objects at a very short distance. Often an elephant, charging by scent, has crashed by the hunter, almost grazing him, having missed his point by a yard or two. Sometimes also the man appears to be saved only by being too close to his enemy to come within the range of its vision. "They had not seen us, simply because we were so near," writes Mr. Chapman, of one thrilling experience. "As a matter of fact, the elephants all this time had been looking far beyond us—over our heads."

Even as it is, however, many authorities consider the elephant the most dangerous to hunt of all wild animals; and among the Soudanese, it is said that a professional sword-hunter of elephants never dies in his bed, but always, sooner or later, under the feet and tusks of one of his adversaries. For, for all its bulk, an elephant is extraordinarily quick in movement, one having been timed to cover, at its queer shuffling trot, 120 yards in 10 seconds; which is to say that the elephant could give the fastest human sprinter 16 yards

start in a hundred-yards' race and catch him at the winning-post.

The elephant's legs are different from those of any other animal, straight and columnar, excellently adapted to support its weight ; and their shape, coupled with the fact that elephants so seldom lie down, was doubtless responsible for the old belief that they could not bend their limbs. So Shakespeare :—

> The elephant hath joints, but not for courtesy ;
> Its legs are for necessity not flexure.

It is still doubted whether they ever lie down in a wild state. Gordon Cumming thought that he found evidence, in marks upon the ground, that the adult bulls did stretch themselves out full length for a few hours' rest about midnight, but the young and the cows, he believed, remained always on their feet. Mr. Selous doubts whether even the old bulls lie down, and he has known a herd to keep moving and feeding throughout the twenty-four hours. "Except when rolling in mud and water," he thinks it likely that an African elephant "never lies down during its whole life." Cases, indeed, are known of elephants dying, and, after death, remaining standing.

All authorities seem to agree that elephants "sleep less and more lightly" than any other animal, and Mr. J. Lockwood Kipling estimates the period of slumber taken standing up to average about four hours in the twenty-four. But the life of an elephant is placid, and it is free from the worries of a conscience; so that though sleeping so little and in spite of the continuous

Indian Elephant

strain of supporting its huge bulk (the still lamented Jumbo weighed 6½ tons), it lives to an age almost great enough to justify the poet's fancy of the "contemporary trees." Aristotle said that elephants lived for 200 years, and he may not have exaggerated, for there seems to be an authentic record of one living to be 130.

At less than a quarter of that age the fine Indian elephant presented to the Society by his late Majesty King Edward VII., when Prince of Wales, is—since the death of Guy Fawkes, the old hippopotamus—the Father, or more correctly the Mother, of the Gardens. She is probably now about forty, having been brought back by his Royal Highness from his Indian tour in 1876, and, as indeed she ought to be, still in the prime of life; for an elephant is not considered to reach its best till somewhere between the ages of 30 and 35. The mantle of *doyen* of the Zoo is one which falls on strange shoulders, for before Guy Fawkes it was worn (not over gracefully, one is tempted to believe) by a rhinoceros, whose predecessors had been in turn a parrot and a pelican. It may be that there are other creatures in the Gardens older than Saffra Calli, for many things, such as tortoises and snakes, ravens and eagles, may well live to be over forty; and at least two residents in the Zoo, a python and a crocodile, have been there only a few months less than "the King's Elephant."

And it seems one of the saddest things in connection with the Zoo that this noble animal cannot be allowed

at large. Once, many years ago, when she was out walking, an *employé* attached to the commissariat department of the Gardens slapped her in passing. For some reason she resented it and, picking him up in her trunk, she swung him once—only for a few feet—and then dropped him. The man seems to have been more frightened than hurt; but the order for her restraint had to be given, and since then, year in and year out, she has stayed rocking behind her bars. It was necessary, but it seems hard; for from that moment, as she had always been before, she has shown herself the most docile of creatures, with a repertoire of tricks which, under proper guidance, she is never reluctant to show off; and when she makes salaam, bringing her trunk up, with a rasping *phr-r-r-rut*, till it touches her forehead between the eyes, it is done in so lordly a fashion that he must be a graceless mortal who does not, remembering that she is a lady, at least take off his hat in return.

But nearly all the elephants have some way of their own of cultivating the friendships which may result in buns or bits of biscuit. Second in size of the Indian elephants is that presented in 1903 by the Maharajah of Benares, and it is one of the two which now carry children. She "speaks" when nicely asked and gives evidence of that reasoning power which makes the elephant so splendidly useful a servant of man in having learned, when a piece of biscuit or other dainty falls to the floor where neither you nor she can reach it, to blow it out to you, as she cannot get it to herself,

that you may pick it up and give it her again—a small thing, but one step further than most animals commonly carry their thinking. The Government of India has officially pronounced the elephant a "stupid animal"; but it is worth remembering that in Hindu mythology it is Ganesha, the shrewd-witted god of worldliness, the patron of successful business undertakings, who wears the elephant's head and brain. But he who would know the Asiatic elephant's nature should read Mr. Sanderson's "Thirteen Years among the Wild Beasts of India."

Of the five elephants now in the Gardens only one is African (and it is the only male), which, like the others, has his tricks, for he waltzes absurdly to command, though no one who has known elephants well, or has sympathy with them, can be especially glad to see him do it. There remain the two young ladies at the other end of the row, one a plump maiden of six, which our present King, when Prince of Wales, brought back from his more recent Indian tour (this being the other of the two which now carry children), and, last, a mere slip of a girl of four, presented by Sir John Hewett, now looking round and hearty, though for some time after her arrival she fretted herself to "skin and bone." But even so, when reduced to skin and bone, there is a good deal of an elephant left, though she be but four years old.

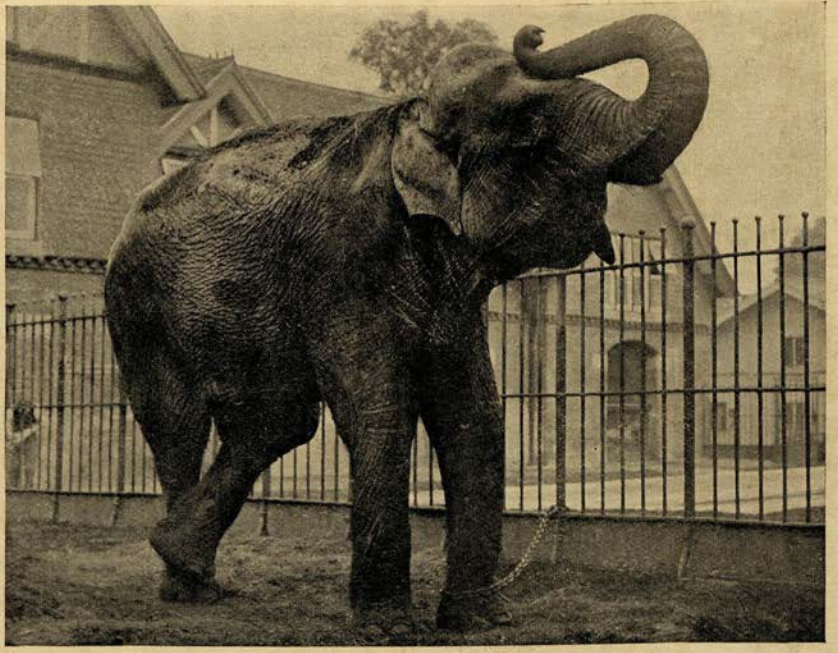
It is perhaps curious that neither in the Old nor in the New Testament is the elephant directly mentioned in the canonical books of the Scriptures, though

references to ivory are frequent enough from the time of Solomon onwards. In the Apocrypha, however, the elephant figures conspicuously. In the first book of Maccabees we have details of the army of Antiochus Eupator, which included "two and thirty elephants exercised in battle":—

> Moreover they divided the beasts among the armies, and for every elephant they appointed a thousand men, armed with coats of mail and with helmets of brass on their heads; and, besides this, for every beast were ordained five hundred horsemen of the best. . . .
>
> And upon the beasts were there strong towers of wood, which covered every one of them, and were girt fast to them with devices; there were also upon every one two and thirty strong men that fought upon them, beside the Indian that ruled him.

Thirty-two men on one elephant is doubtless an exaggeration, but the reference to the mahout, "the Indian that ruled him," is curious. Later in the same book we learn how Eleazar, the son of Mattathias, earned the surname Saravan, for that he "crept under an elephant and thrust him under and slew him."

The elephant, then, was primarily a great engine of war, and in Oriental legend it is always a symbol of power and prowess in battle. So much is the possession of the royal beast held to be the badge of rank that one small native prince in India used to, and perhaps still does, spend three-quarters of his total income on the upkeep of his single state elephant; while for the possession of a white elephant we know that kingdoms have gone to war. In battle, however, it has not always been a comrade in arms to be trusted. It was



Indian Elephant

not only at the siege of Arcot, when the British bullets threw the elephants into panic and drove them back to spread havoc in their own ranks, that the "castle-bearing elephant" has been more dangerous to his friends than to his enemies. Alexander, we are told, in invading India, found himself opposed by "olyphauntes berynge castelles of trees on their bakkes," but having fortunately been informed that the said "olyphauntes" were afraid of pigs, he placed in the forefront of his fighting line a herd of swine, which were driven against the enemy, and the "jarrynge of ye pigges" so shook the nerves of the Behemoths that they fled incontinently and "keste down ye castelles and slewe ye knyghtes."

Elephants are, indeed, afraid of many things smaller than themselves, as, according to the Vedas, of the sparrows; and there is Spenser's "Elephants and the Ant." Also they hate mosquitoes; but the most dreadful story of the obnoxiousness of the great beast to the attacks of puny enemies is that told by Mr. Hagenbeck:—

In the middle of the night, perhaps about two o'clock, my old keeper awoke me with the news that one of the elephants was making a rattling noise in its throat and seemed to be ill . . . . An hour later another keeper knocked and brought a similar piece of information; this time I roused myself and was in the stables in a few minutes. But I was too late. One elephant lay dead and two others lay dying. An examination showed that the soles of the feet of the dead animal were gnawed through in several places, blood still flowing from the wounds. "Rats," said my old keeper, and so it proved to be; for the marks of their sharp teeth could be plainly recognized in the horny hide, and the dying elephants had similar injuries. Who could have foreseen such a danger? One can only

learn these things from experience. There was wooden flooring in the stable, and under these planks the rats had made their nests. The next morning we slew nearly 60 of the assassins.

The destruction which elephants sometimes work in the forest is said to be almost incredible by one who has not seen it. Trees which are too big to be either pulled up with their trunks or pushed down with their foreheads, they uproot with their tusks. Sir Samuel Baker recorded seeing trees two feet in circumference and over 30 feet high torn up in this way, and there seems to be no doubt that the elephants help each other in their task and work co-operatively:—

"For miles the forest was absolutely devastated—wrecked; huge trees overthrown, one upon another, their limbs rent asunder; cedars and cypresses, mimosas and acacias torn to shreds; the tall grass trampled flat; while amidst the ruin chewed branches and disgorged masses of bark and fibre everywhere littered the ground. We could plainly distinguish places where several elephants had worked collectively to overturn some extra strong tree."

How formidable a tool (or a weapon) the tusk may be will be understood when it is remembered that the tusks of an African elephant may be 11ft. long and weigh 230lbs. It is no exceptionally large bull which carries ivories from 7ft. to 9ft. long, and these may have anything up to, perhaps, seven tons of intelligently applied weight behind them. The Asiatic elephant is generally smaller than the African, rarely exceeding 9ft. 6ins. in height at the shoulder, though specimens up to 11ft. do occur. A normally well-grown African male is only a few inches under the latter height, while they are said to reach the huge stature

of over 13ft. Many writers have pointed out, however, that even this portentous size is exaggerated in appearance as the wild elephant confronts the hunter in the 10-foot high elephant grass or other jungle; for, when on the alert, the beast may stand a foot or two higher in front than at the shoulders, while the great ears (which in a large African elephant are themselves some 6ft. by 4ft. in dimensions) stand out on either side of the head. The whole brute, then, as seen from in front, may have an apparent surface of 13ft., or even more, in height by upwards of 10ft. wide: and what this means one can imagine by measuring the space roughly with the eye on the wall of any room—provided the room be large enough!

There is no need to multiply examples of the bulk or might of the beast which—

> lent to Alexander the strength of Hercules,
> The wisdom of our foreheads, the cunning of our knees.

Four elephants, as we know, kneeling at each corner of the earth, hold up the heavens and all the stars. The ordinary load of a good elephant when used as a beast of burden is 1200 lbs. But its mere strength would be useless were it not for the teachability and susceptibility to discipline which make it an invaluable servant of man.

It has been pointed out before that it is unjust to the elephant that the story of its intelligence, with which the public in general should be most familiar, is that which tells how an elephant sucked up water from a

puddle in the road and squirted it over the tailor who had pricked its trunk with a needle. It was a street-boy trick at best. A familiar anecdote in India (and whether it be true or not is immaterial) is that of the elephant whose mahout had obtained leave of absence for ten days, and, on departing, gave the elephant strict instructions to work for another driver for so long. The mahout over-stayed his leave, but on the eleventh morning the elephant struck, and nothing would induce it to work until its proper master returned and resumed authority. Akin to this and equally well-known (both the stories are repeated by Mr. Lockwood Kipling) is the tale of the elephant which was accustomed to receive twelve flapjacks as a daily ration. One day the mahout appropriated one to his own use and gave the elephant only eleven. The animal counted them and laid them out in a row on the ground before him, and when his master came by trumpeted loudly to call attention to the injustice. Native women sometimes, when called away, entrust their babies to the care of "the Handed One," confident that they will be safe and tenderly handled.

But of all elephant stories surely the finest is that which tells how the standard-bearing elephant of the Peishwa won a great victory for its Mahratta lord. At the moment when the elephant had been told to halt, its mahout was killed. The shock of battle closed round it and the Mahratta forces were borne back; but still the elephant stood and the standard which it carried still flew, so that the Peishwa's soldiers could not

believe that they were indeed being overcome, and, rallying, in their turn drove the enemy backwards till the tide swept past the rooted elephant and left it towering colossal among the slain. The fight was over and won, and then they would have had the elephant move from the battle-field; but it waited still for the dead man's voice.

For three days and nights it remained where it had been told to remain, and neither bribe nor threat would move it, till they sent to the village on the Nerbudda, a hundred miles away, and fetched the mahout's little son, a round-eyed lisping child—and then at last the hero of that victorious day, remembering how its master had often in brief absence delegated authority to the child, confessed its allegiance and with the shattered battle-harness clanging at each stately stride, swung slowly along the road behind the boy.

So, Salaam, Bahadur! No mere human being will ever quite understand the workings of your mind or the contradictions of that character which is compact of paradoxes, even as you yourself are an anachronism, a survivor from an earlier age in the earth's history, of the days in which there were giants.

With all your strength and bulk you are gentle and love to busy yourself with trifles; greatly simple-minded and with a fine amenability to discipline, you are subject to unreasoning petulances and panics, and when the evil fit is on you—*corruptio optimi pessima*—you have the bad cunning of a fiend; fronting the shock of battle unterrified, you are obedient to children and sadly afraid of little dogs; earth-shaking, you can move so noiselessly that no cat goes with softer foot-fall. No man can measure all your ways, any more,

seemingly, than man can tell what happens to dead wild elephants, which, making all allowance for their longevity, are not found nearly as often as they ought to be. Natives of India explain it by saying that the wild elephant never dies. So, Salaam again, Noble One, Lord of Unnumbered Days!

VI.—Of Rhinoceroses and Hippopotami.

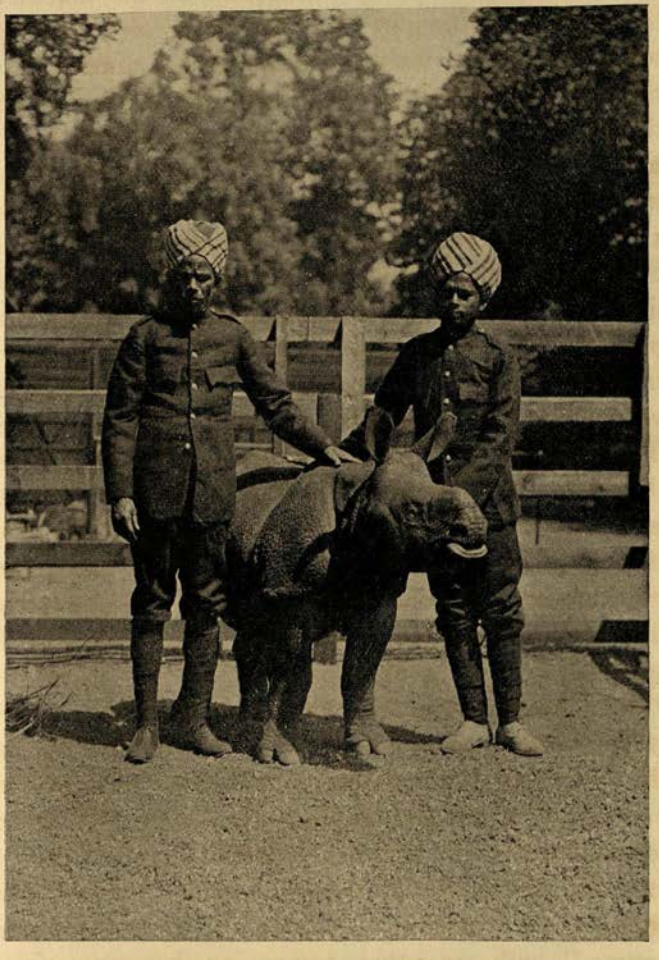
It is difficult to think of the two beasts apart. Fix your mind on the hippopotamus, and the ugly horn of a rhinoceros comes inevitably lifting into view; consider a rhinoceros, and the other squelches in, with dank weeds streaming from its cavernous mouth.

The hippopotamus enclosure at the Zoo is just now rather in the nature of a kindergarten, for none of the three occupants will be over four years old till the end of the present year. They are, in fact, "totos"—a charming word for the young of such a cumbersome beast—and two of them are, so to speak, hippopotamæ, being girls. One of the two (which was received from Nigeria when four months old in November, 1906) has, sad to say, some swelling of her internal organs, which is plainly visible even through the thick skin of a hippotamus (suggesting a portmanteau which has been too tightly packed over some over-large and nubbly article within) and must be her despair if she takes any proper feminine pride in her figure.

As the English name is river-horse (not horse-river), it is hard not to be annoyed that the scientific name of the animal is not "potamippus," which, after all, is obviously less unwieldy than hippopotamus; but Sir Thomas Browne has already completely and delightfully

exposed the absurdity of the English name. It is, as he earnestly points out, a reflection on the inventive capacity of an Almighty Providence to make all things which live in the water no better than counterparts of things which live on the land. So far was this carried that the old naturalist-theologians had a complete submarine hierarchy, with water-monks, water-abbots and water-bishops; and the river horse was no more than a land-horse with ridiculously-webbed feet. Apart from the impiety involved in ascribing to the deity so little resourcefulness of invention, this was, Sir Thomas pointed out, zoologically inaccurate. As a matter of fact the hippopotamus was not at all like a horse, but very much like a pig—except in its feet. And this last detail is agreeably illustrative of the quality of the natural science of those days; for it happens to be precisely by their feet, as being both "even-toed," that naturalists to-day link the pig and the hippopotamus together! Otherwise, also, apart from the feet, the rhinoceros is conspicuously more swine-like in appearance than the hippopotamus.

It is doubtless the constant mental association of the two that is responsible for the common belief that the rhinoceros is almost an amphibious animal, a thing necessarily of the swamps and river banks. A writer on natural history, who has devoted himself largely to exposing the errors of others, speaks of the African rhinoceros as spending its time in "some secluded swamp," with no other companion but water-fowl, or among the "squashy brakes of the Nile"; and he



Rhinoceros (India).
Prince of Wales' Collection (H.M. King George)

tells how the Romans dragged it out from its "Nubian fens" to delight the crowds in the amphitheatre. As a matter of fact, neither species of African rhinoceros, the black or the white, frequents damp country, and the former at least is said to be generally out of health in wet seasons. "The dry, barren wastes of British East Africa," says Mr. Neumann, "seem to suit it best," and "the open arid plains of Masailand and Laikipia." It is true that the rhinoceros likes to drink once in twenty-four hours or so (and sometimes it visits water at dawn as well as in the evening), wherefore it prefers to stay within, at most, a dozen miles of a lake or river; and many a thirsty traveller in Africa has welcomed a meeting with a rhinoceros, knowing it to be a sure sign that water was not many miles away, or has been led to a stream by following the great brute's path through the scrub.

We know that a full-grown rhinoceros has recently been successfully "roped," even though its captors were unable to keep it after getting the huge beast to camp. But the most extraordinary incident in connection with rhinoceroses of which we have any record is doubtless the story of that full-grown black rhinoceros cow which went down to drink at the Thika River, near its junction with the Tana, in British East Africa, and was seized and pulled under water by a crocodile. The struggle was witnessed by Mr. Max Fleischmann, who was able to get photographs of it in its various phases, which, together with a detailed account of the fight embodied in a letter

from Mr. Fleischmann. are given in Mr. Selous's "African Nature Notes and Reminiscences." But for the fact that the thing was seen, and for the evidence of these photographs, no one probably would have believed that a crocodile or any number of crocodiles could compass the death of a full-grown rhinoceros; but the latter, having been seized by a hind leg when in shallow water, was unable to get a good fair pull on his antagonist, and was gradually dragged out into the stream until beyond its depth. And anything more horrible than the picture of the huge brute, when once it had disappeared beneath the blood-stained water, being torn to pieces, even as it drowned (for it is believed that before the end other crocodiles had been attracted by the struggle, and they were probably swarming about it), it is not easy to conceive.

All the three species of Asiatic rhinoceros (though it is possible that a fourth species exists unidentified in Burma) haunt chiefly riverside swamps or a similarly wet neighbourhood; but the African rhinoceros, black or white, is no amphibian. It loves, indeed, to wallow in a mud-hole, as it delights to roll in the dust, wherefore it commonly has no inconsiderable quantity of the soil of the neighbourhood clinging to its already sufficiently unlovely person. There has been some discussion as to how the great blunt-nosed rhinoceros (next to the elephant the largest known land-mammal living) came by its name of "white," given to it by the Boers, seeing that the "black" species is often the

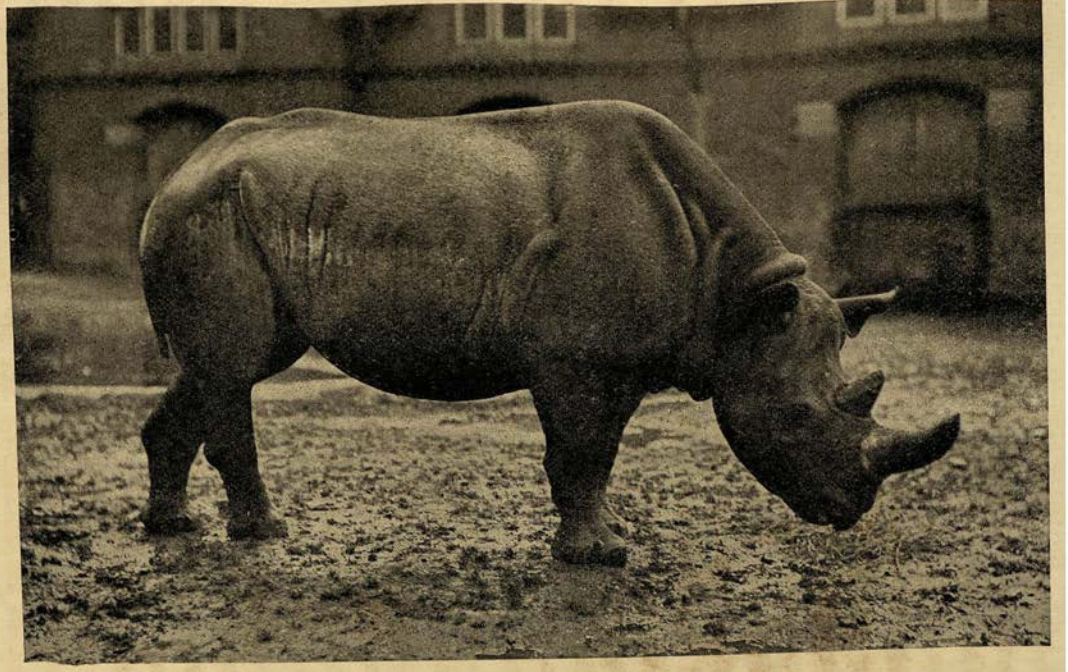
lighter of the two; but it has been pointed out that when covered with dust and standing in the full African sun, it may well have looked truly white. So disguised, indeed, may the creatures be with dust or mud that "in one district they appear almost white and in another red or nearly black, as the case may be," in harmony with the surrounding soil.

The white rhinoceros used to exist in almost countless numbers over wide areas in Southern Africa, from which it has been so completely exterminated that it was believed to be practically extinct until the discovery a few years ago that it still abounds in a particular district. Standing as much as 6ft. 6ins. at the shoulder (or a foot taller than its black cousin, though the great Indian rhinoceros has been known to reach 6ft. 4ins.), and measuring over 14ft. in length, the white rhinoceros habitually carries its unwieldy head so low that the front horn continually rubs against the ground and is more or less worn away by the constant friction. Gross and unlovely though it looks, however, its flesh is said to have been considered by both the Dutch and English hunters superior to that of any other game animal in South Africa; a fact which goes some way to explain the rapidity with which it has disappeared. The chief object of the slaughter, however, was the possession of the horns, which sometimes exceed 60ins. in length; and it is recorded that one hunter killed 60 white rhinoceroses in a season and another nine in a day.

The Zoological Gardens at present contain four

rhinoceroses, and they are accounted among the worst tempered and most dangerous beasts in Regent's Park. The young Indian rhinoceros from Nepal, presented by the King when Prince of Wales, the keeper can in a measure overawe and keep at bay with a broom; but no one takes liberties with the larger Indian specimen presented by H.H. the Maharajah of Cooch Behar, or with the female black rhinoceros from East Africa. Nor is the even more uncomely hairy-eared rhinoceros (also from India, and best considered as only a variety of the Sumatran species) any more sweet-tempered. This animal, the public is informed by the label on its cage, was "received in exchange," an announcement which has prompted Mr. Emanuel to remark that he does not know for what it was exchanged, but he considers that "the Society got done over the deal." In the rhinoceros, indeed, we see almost the *reductio ad absurdum* of nature's principle of sacrificing beauty to utility; and this particular creature is so frankly and universally unprepossessing that it seems ungenerous of science to call attention to so trivial, if distinctive, a detail as that it has hairy ears.

Of the temper of the rhinoceros when at large accounts are curiously contradictory, the subject, so far as the African species are concerned, having recently been well threshed out by Mr. Selous in the book already quoted. He himself considers the black rhinoceros to be "stupid and blundering," but rarely intentionally aggressive, saying that he has "never known an instance of one not running off immediately



African Rhinoceros

on getting my wind." Similarly Mr. F. Vaughan Kirby declares it to be "naturally timid" and "the easiest to kill of all large game." The experience of Mr. Neumann coincides with this, the beast, in his opinion, being "intensely stupid and marvellously blind." The white rhinoceros (in spite of the fact that one threw him and his horse into the air) Mr. Cotton Oswell apostrophizes as "Poor old stupid fellow . . . . the very thing for young gunners to try their 'prentice hands upon"—sad words, seeing how nearly the white rhinoceros has come to being extinct.

Many other authorities, however, speak of the animal's exceeding and gratuitous ferocity. Mr. Abel Chapman ranks the rhinoceros next to the elephant as the most dangerous of African wild game. Gordon Cumming found the black rhinoceros "extremely fierce and dangerous"; and the divergence of opinion appears in some points to extend to matters of fact on which discrepancy would seem unnecessary. Thus Mr. Neumann says that the Ndorobo "have far less fear of rhinoceroses than of elephants," while Mr F. J. Jackson, speaking also of natives of East Africa, avers that "as a rule they are more afraid of a rhinoceros than of either an elephant or a buffalo."

The Asiatic rhinoceroses, of which three different species are recognized, are generally regarded as more or less inoffensive until wounded or attacked; and in regard to the African black species the fact probably is that there is great variety of disposition among individuals; and it may well be, as Colonel Patterson says,

that the same animal is "one day savage and timid the next." That they are formidable antagonists when they attack may well be believed, for, in spite of their size and weight, they are very nimble on their feet, and can, as one sportsman says, "turn in their tracks like monkeys."

It is almost certain, however, that many of the cases of ferocity which are reported are no more than manifestations of the animal's stupidity—what is mistaken for a charge being but the bewildered rush of a frightened beast endeavouring to get away. With its miserable sight the rhinoceros is usually made aware of the approach of danger, if at all, either by its sense of smell or by the warning of the rhinoceros bird which, haunting the beast for the sake of the ticks which infest it, acts as sentinel. In the latter case the animal probably has no idea from what quarter it is threatened, and in the former it probably places the direction of the peril but vaguely. All rhinoceroses seemingly run up wind when suddenly roused or alarmed; and it necessarily follows that the first blind rush not seldom takes them straight at the object the scent of which has disturbed them. Thus many instances have been reported of their charging straight at passing and peaceful caravans, sometimes breaking through the line of porters, sometimes heading direct for one of the wagons; and whatever comes in the way of a rhinoceros moving at full speed is likely to suffer. The most remarkable story of the kind is perhaps that of Colonel Patterson, who tells how

A gang of 21 slaves, chained neck and neck as was the custom, was proceeding in Indian file along a narrow path when a rhinoceros suddenly charged out at right angles to them, impaled the centre man on its horn, and broke the necks of the remainder of the party by the suddenness of its rush.

Most African hunters have had the experience of being robbed of a shot at rhinoceros or buffalo by the bird (*Buphaga*—called also tick-bird or pecker) referred to above, which haunts the large animals for the sake of the ticks and other parasites which infest them. On catching sight of the hunter the bird rises into the air above the animal's back, in short quick flights, while uttering its alarm cry; and the beast, seeming to understand thoroughly the significance of the warning, usually bolts—or charges—at once. And the preponderance of opinion is that the bird knows well what it is doing, not being so much alarmed for itself as intending purposefully to give warning to its short-sighted host. It is always difficult in any wild creature to distinguish instinct from deliberate intent; but it is a curious fact, apparently well vouched for, that the same bird when frequenting domestic buffalo or other cattle goes through no such performance, but appears to be indifferent to the approach of man. If this be true, however cautious one may be (and it is necessary to be very cautious) in interpreting the actions of wild creatures, it is hard not to think that the bird is the animal's intentional ally against man,—that it acts, that is, with the direct intention of protecting the beast which furnishes its food supply from danger.

An old belief was that the rhinoceros whetted its

54191

horn upon a rock (or an agate, according to Pliny) before it began to fight; and had it no majesty of its own it would, in poetry and tradition, be dignified by the enemies which it made, its hereditary antagonists being the lion and the elephant.

> In the wastes of India, while the earth
> Beneath him groans, the elephant is seen,
> His huge proboscis writhing, to defy
> The strong rhinoceros, whose pond'rous horn
> Is newly whetted on a rock.

So Darwin, and again Glover :—

> Go, stately lion, go! and though with scales inpenetrable armed,
> Rhinoceros, whose pride can strike to earth the unconquered elephant.

Cowper and Dryden, however, are of the opinion that it was the elephant that did the striking to earth, the rhinoceros being no match for "her unequal foe." But as a matter of fact a fight has been witnessed between an Indian rhinoceros and a full-grown male wild elephant in which the former came off victorious.

If we follow those writers who identify the rhinoceros with the unicorn, then its hereditary feud with the lion dates back to ages when there were hardly any crowns to fight for; and if the lion generally had the better of the fight it was by cunning rather than by strength, for "as soon as the lion sees the unicorn be betakes himself to a tree," when "the unicorn in his fury, with all the swiftness of his course, running at him sticks his horn fast in the tree, and then the lion falls upon him and kills him."

Rhinoceros

This seems to have been the invariable procedure. Spenser tells the same story, and we know from Shakespeare that "unicorns may be betrayed with trees." It is not necessary, however, to suppose that the rhinoceros furnished the first suggestion of the unicorn, which was probably as purely fanciful a creature as the phœnix or the hippogriff, the early poets and naturalists, bent on inventing the most fearsome beasts which their imagination could concoct, hitting as easily on the idea of a straight-horned horse as they did on that of a winged lion, or of an eagle clad in a scaly coat of mail. Some at least of the much-prized "unicorn's horns" (so precious, when fashioned into drinking cups, for the detection of poison, that one horn was "worth a city") were horns of the narwhal. Both the existing African species of rhinoceros and one of the three Asiatic are bicorned, and "rhinoceros ivory" (in itself a preposterous term) is a substance composed of agglutinated hairs. It is reasonably certain that the unicorn of the Bible was not a rhinoceros, says the Rev. J. G. Wood, who went into the subject thoroughly, inclining to identify the Hebrew *reem*, plausibly enough, with the huge member of the ox tribe, the now extinct urus.

The rhinoceros, then, need not shoulder the feuds of the unicorn; and if he has any quarrel with lion or elephant he must settle it in his own person. But in truth "the mailed rhinoceros that of nothing recks" has little to fear from any living thing but man, in spite of the one black rhinoceros which we know was

killed by crocodiles, and the fact that, according to Mr. Cotton Oswell, the male white rhinoceros has sometimes been destroyed by hyenas. Combats between two rhinoceroses have been often seen in Africa, when the object of each appears to be to hook his antagonist in the soft region around the throat; but though they fight doggedly and are sometimes badly lacerated about the face, Mr. Jackson thinks it "highly improbable that they ever kill each other." Curiously enough, none of the Asiatic species seems to use its horn as a weapon of offence. Colonel Heber Percy says that the great Indian rhinoceros, when it charges home, "only bites"; the fact apparently being that it strikes with its lower side tushes, like a boar; and with these, according to Colonel Pollok, it "can inflict a fearfully clean and deep cut, and an elephant once ripped by one will never go near a rhinoceros again."

While, as has been said, the rhinoceroses are accounted among the most dangerous animals in the Zoo, the young hippopotami are so markedly docile that they will allow even a stranger, when properly introduced, to rub their noses with his hand. But the nose of a hippopotamus is not only disagreeably wet and slimy, but unexpectedly set with bristles; so that rubbing one (except for the distinction of being permitted to do it) is a doubtfully pleasurable occupation. Though the reputation of the rhinoceros, however, is so evil, while the hippopotamus is commonly considered fairly harmless, the testimony of so high an authority as Mr. Hagenbeck is all in favour of the former.

Hippopotami, it seems, give more trouble than any other animal in their transportation by land after capture. For one thing, they inconsiderately insist on a daily bath, no matter how difficult water may be to obtain. Then "while the rhinoceros soon learns to know the keeper and will follow the caravan like a dog, the hippopotamus is an animal to be treated with caution." It is "obstinate," he says, and "malicious"; and there are few animals the handling of which offers more opportunities for accident.

In some parts of Africa the natives are much afraid of hippopotami, and cases are known of men and women going carelessly down to the water, walking straight on a hippopotamus among the reeds, and being seized and killed. In Nyassaland recently a woman was thus seized by the arm, which was torn off. She escaped and, after some months in hospital, completely recovered. Within a week of being released from hospital, she was bitten and killed by a puff-adder.

It is hard, however, to consider the hippopotamus as dangerous game, unless it be to the occupant of a frail boat; and what difficulty there is in killing it is due chiefly to its wariness and the caution with which it shows itself above water. Says one authority:

"The target presented by a hippo when resting at the surface is extremely small. There are his nostrils, represented by the size of a man's hand held flat; a foot or so behind these, often separated by water, rises the prominent upper portion of the cranium, carrying the eyes and little pig-like ears. The total height of this, as exposed, is perhaps four inches; but to be fatal the bullet must take only the *lowest* inch."

One can understand how difficult the animal may be to see, even here in the open pond in the Zoo, when the totos are in the water; and one can also here endeavour to verify for himself the statement made by those who have watched them in their native haunts that the grunting and snorting of the beasts are audible from well under the water, though no air-bubble or other sign comes up to the surface.

Besides offering so small a target to the sportsman, the hippopotamus—like many wild things, and like the rhinoceros—seems at times to be possessed of extraordinary vitality. Mr. Selous has told of a black rhinoceros which had been shot through the head and was supposedly dead. The natives began to cut it up, and a cut two feet long had been made with an assegai in its side. Suddenly the monster came to life. The natives endeavoured to stab it through the heart as it lay; but it succeeded in rising to its feet and actually got away. So it is not an uncommon experience for a sportsman, confident that his shot has been fatally placed in the right spot in the head of a hippopotamus, to watch what appear to be the death-flurries of the huge beast in the water, the pool about it being dyed red with blood, only to find at the last that the animal does not come dead to the surface, but that it seemingly recovers and gets away. At night hippopotami commonly come out on land to feed, and it is sometimes easier to bag one then by moonlight than it is in the daytime in the water, when, at a place where they have all been disturbed by man they are usually chary of

coming near shore, unless under the shade of overhanging trees, where, in the gloom, the small surface which they show above the water is extremely difficult to see.

> At night he heard the river-horse as it crushed the reeds
> Beside some hidden stream,
> And it passed like a glorious roll of drums
> Through the triumph of his dream.

But one is tempted to wonder whether the poet really knew what the river-horse was; for there is something curiously incongruous in the comparison of the noise of a hippo squelching and sloshing about the banks of a reedy river (even though it have the "scream" of hyenas for accompaniment) with anything so martial as a roll of drums. Elephant, lion, tiger, rhinoceros, leopard—the name, or the image of any of these may well stir the blood; but the hippopotamus——! There is that about its ponderous placidity, its graceless bulk, which ill consorts with thoughts of glory. And, poor thing! in spite of its wariness, it is rapidly disappearing before the advance of man, having already vanished from many rivers wherein thirty years ago herds lolled and wallowed at their ease.

It is true that there is in Africa a species of hippopotamus which man has not yet had a fair chance to begin to exterminate. This is the pigmy hippopotamus, which is to the larger beast as a Shetland pony is to a shire horse, being, when adult, no larger than the smallest of the totos here in the Zoo. No specimen of

this altogether less repellent-looking animal has yet been brought to England alive; and it may be that in the almost impenetrable brakes in which it lives it will succeed, by its mere unapproachability, in clinging to existence long after its larger relative has become extinct. With the rapidity with which Africa is now being "civilized," even though hippopotami are now officially preserved in some localities, it would not seem as if the latter consummation can be long delayed.

And so it is with the rhinoceros. However armed a beast may be against the attacks of other beasts, it is enough if man alone, with his modern weapons, stands its enemy. It is pitiable to read of the enormous numbers of rhinoceroses, both black and white, which at one time were to be found over large tracts in Africa, when, though the animal does not congregate in herds, Sir Cornwallis Harris mentions seeing 22 in half a mile, and as many as 150 might be met with in a day's march; and one of the inconveniences of making camp was the necessity of first driving away the over-inquisitive and not always tractable brutes which lurked on every hand. Nor, except in certain districts, was there any serious diminution of their numbers until some 40 years ago. Recent discoveries, as has been said, have shown that the white rhinoceros is not quite as near to extinction as was supposed a few years since; but both it and its black cousin are undoubtedly doomed, unless the establishment of game preserves succeeds in maintaining them in a semi-wild state.

Perhaps it is inevitable that they should go. The

present species are but a small fraction of the number of kinds which existed in former ages, and, like the elephant, the rhinoceros is plainly an anachronism to-day. "Often have I sat upon a ridge," writes Mr. Cotton Oswell, "and looked at them as they moved solemnly and clumsily on the plain below, wondering how they still came to be in this world," appearing, as they did so plainly, "to be out of time, to have belonged to a former state of things, and to have been forgotten when the change was made."

VII.—Of Buffaloes.

In which are not included bison. It is well to have this understood at once, seeing how completely our American cousins, with their disturbing acquisitive ways, have annexed the old name to the creature which once covered their prairies to such an extent that, in a picturesque Red Indian phrase, "the world was all one robe." It is difficult now to speak of buffaloes without the mind conjuring up the image of bison :—

> . . . The mad
> Masterful tramping of the bison herd,
> Tearing down headlong with their bloodshot eyes
> In savage rifts of hair.

The word buffalo has been made so familiar as the sobriquet of Bill and Jones and others that it is necessary to insist that the buffaloes which we mean are animals of the Old World.

Not that we are much less guilty than the Americans, for, in spite of the protests of naturalists, English sportsmen persist in speaking of the Asiatic gaur as "the Indian bison." The gaur is a noble brute. Mr. G. P. Sanderson considered it "undoubtedly the finest species of the genus *Bos* in the world." Colonel Pollok (whose records seemed to have been overlooked by later writers) tells of Burmese gaur standing 2.1

Dwarf Buffalo

hands, or a full 7 feet, at the shoulder. Natives of India, we are also told, declare that the gaur "takes up stones with its nostrils and discharges them at its assailants with the force of a musket ball." It is therefore a formidable beast. But it is not a bison, any more than the American bison is a buffalo.

The sad story of the disappearance of the wild things before the face of civilized man contains no chapter more tragic than that which tells of the slaughter of the bison herds. When the present writer first crossed the Western plains, 26 years ago, the work was almost done.

> . . . Raging up like doom
> The murderous dust-cloud that was full of eyes

had vanished; and the chance of falling in with a wild bison south of the Canadian border was remote, though an occasional small bunch or an individual straggler continued to be met with for some years afterwards. But we travelled for days over prairies every acre of which was sprinkled with whitening bones and skulls, eloquent testimony to the awfulness of the massacre of the preceding years; and as the railway thrust its way across the wilderness the bones, collected from the surrounding country, might be seen piled in huge mounds, haystack high, all along the route. There they waited till they could be transported eastwards, to be used, it was said, in sugar refining, but more probably as fertilizers of the soil of the older States.

In those days, and for some years afterwards, bison skins were so cheap that none but hack-drivers in

frontier towns, teamsters and lumbermen condescended to wear a "baffalo overcoat"; while the "robes" were the commonest kind of rug and put to the coarsest uses. Buying them for camp purposes, the present writer paid a dollar apiece for beautiful robes selected from piles which must have numbered hundreds.

In many parts of the United States the prairies are still reticulated with the slowly disappearing but deep-worn trails of the old herds and pitted with their wallows. Mr. "Buffalo" Jones has only recently, by his rope-throwing invasion of Africa, become known to the British public, but he has for a couple of decades been one of the heroes of American youth, every boy in the United States being familiar with the story of how for years he earned his living by supplying bison meat to parties crossing the plains, until, seeing that the herds were doomed to extermination, he "broke his rifle scross his saddle and vowed to save them."

Thenceforward he devoted himself to "roping" the bison calves, and it is recorded how in one day, single-handed, following the herd on horseback, he succeeded in cutting out, roping, tying down and saving eight calves. Wolves, as usual, were also following the herd; but wolves will not, at least for some time, summon up courage to touch anything, however tempting, to which the smell of man clings strongly. So to each calf, as tied down and left upon the prairie, Jones fastened one of his garments—a boot, a sock, coat, trousers, shirt. More than once he was charged, and, at least, once thrown, by the old bison endeavouring to protect her

young, and was compelled to use his revolver, but at sunset, bruised, fainting, his cartridges used up, naked, but triumphant, he was picked up by the wagon which followed on his trail, the richer by eight bison calves.

"The Saviour of the American Bison" he is generally called. It might well have been, indeed, that his calves were the only stock of bison left on the North American continent. But it happened that while the slaughter went on to the bitter end in the Western United States, a remnant of the once countless armies of the shaggy beasts lived on in the Canadian North-West; and the great Canadian herd, which to-day is much the largest collection of bison existing in the world, would not be much smaller if Mr. Jones had never given up the rifle for the lariat.

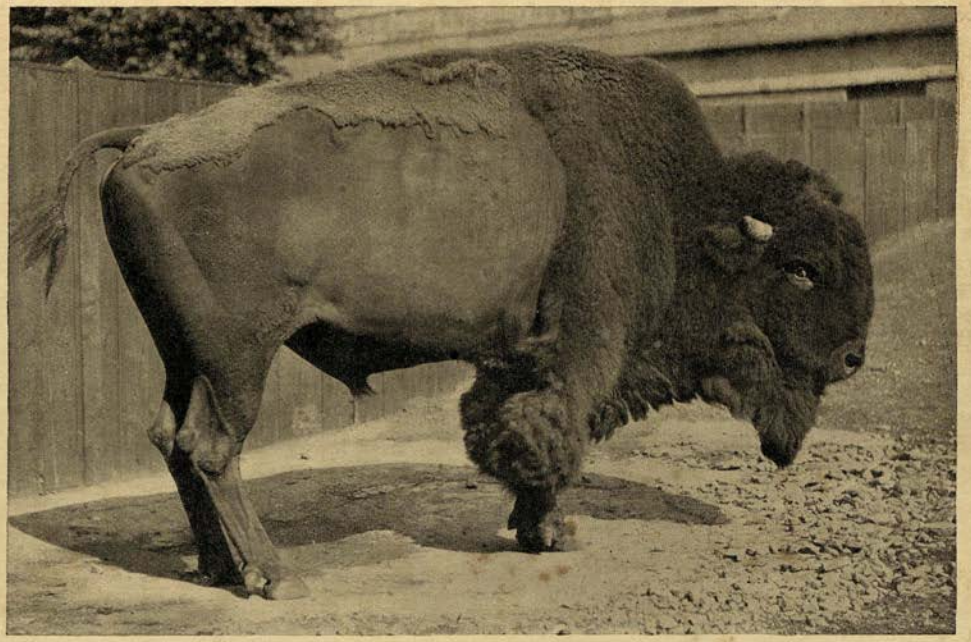
The four American bison now in the Gardens include an old bull, two cows, and a friendly-dispositioned little woolly calf, which is not quite seven months old, having been born in Regent's Park on February 27, 1909. Nor do the older members of the party remember any more than he the company of those herds which "o'er the vast savannah rangéd masterless," for they are from the Duke of Bedford's herd at Woburn.

The old bull, with great matted flocks of hair hanging from his half-naked skin, presents perennially the appearance of being fallen somewhat into disrepair and as if he would be the better for re-upholstering. Nor is he nearly so ferocious as he looks. He spends

much of his time, indeed, endeavouring to break down the fence on one or other side of his enclosure ; but one suspects that these demonstrations are intended chiefly to impress the cows, for once, having succeeded, he found himself unexpectedly in the presence of the English wild cattle from Chartley. Thereupon he spun round and promptly found shelter in his own yard.

On another occasion he broke down the door of the shed wherein was confined the year-old bull calf of the same wild cattle, and when the keepers arrived the youngster, standing defiantly on the wreckage of the door, was inviting all three of the bison to come on, either singly or together, an invitation which neither the bull nor either of the cows showed any disposition to accept. The bull, indeed, seems only truly fierce when there is nothing more formidable than wooden palings to oppose him ; and the American bison, even in its wildest days, never appears to have had the heart, the temper, or the cunning of either the African or Asiatic buffalo.

A story which used to be well known in India tells of a newly arrived and innocent griffin who, being out one day alone, armed with nothing but a fowling-piece, fell in with a wild boar, and seeing that it was "only an old pig," light-heartedly filled it with small shot, not much to the boar's inconvenience, but vastly to its indignation. Happily, a climbable tree was handy, in which the animal kept the undiscriminating sportsman perched for several hours till help arrived. It is not



Bison

easy for the uninitiated to understand how such things as boars and buffaloes—mere pigs and oxen—can be as savage or as dangerous as lions or tigers. It is irrational that creatures which we habitually eat should be as formidable as those which, when they get a chance, eat us. But

> . . . woe to those who dare
> To rouse the herd-bull from his keep,
> The wild boar from his lair.

If, indeed, all that is told of the great, but as yet little known, giant forest-hog (*Hylochœrus*) of the Mau plateau and Laikipia be true, it must be a truly terrible beast. Big boars are said to stand "as high as a zebra," or, at all events, over four feet high at the shoulder; but they are seldom seen outside the mountain forests and few white men have yet fallen in with them.

The only buffalo now in Regent's Park is a bull of what is generally called the Senegambian buffalo—*Bos caffer* (*bubalus*) *planiceros*—though the Society's label on its enclosure calls it a "dwarf buffalo." Compared, indeed, with a huge specimen of the Cape race, it is a dwarf; but there is still a good deal of it, and it is one of the most consistently moody and intractable animals in the Gardens, for ever trying to break down its barriers, which are strengthened with extra timbers. And if by any chance it found itself in the presence of the Chartley cattle or any other beast in the park, there is little likelihood that it would wish to get away again.

Yet, as with so many other animals, there is much

difference of opinion as to the buffalo's true character. Mr. F. J. Jackson considers it "the most dangerous beast in East Africa." Colonel Pollok calls the Asiatic animal "very savage and very treacherous." Mr. W. Cotton Oswell says that Kaffirs will hunt the bloodspoor of elephant, lion, or rhinoceros, or any other animal, "right ahead of you like hounds; but put them upon wounded buffalo tracks, they will *follow* you at a respectful distance." Mr. Selous, on the other hand, considers the lion more dangerous and the elephant, when wounded, more vicious. "Personally I do not think the Cape buffalo to be naturally vicious or ferocious," he says, and, having killed 175 of them to his own rifle, he is of the opinion that he has "been very badly treated in the way of adventures with them if they are really such a diabolically cunning beast as has been represented."

Major Arnold also declares the ferocity of the bush cow (the smaller red buffalo of the Congo country, between which, at the one end, and the big black variety of the Cape at the other, come all the intermediate forms of the African buffalo, which have sometimes been considered as species, but are better regarded as local races) to be "more in the imagination of the natives than in any real danger incurred in hunting them." Mr. Chapman tells how his Somali hunter "treated buffalo as we might rabbits." Accounts, therefore, are sufficiently contradictory; but about certain of the buffalo's characteristics there seems to be no dispute.

No one has doubted its courage, so that when it charges it always charges home, neither losing heart nor swerving, whether its antagonist be man or elephant or tiger; or its tenacity of life, making it at times extraordinarily difficult to kill; or its cunning, which suggests to it the most disconcerting manœuvre, when wounded and being followed up, of turning back on its track for some distance and then stepping aside into the bush to lie in wait until its pursuers come along, when it can take them at a disadvantage, charging suddenly out at them from the side or rear. Too many sportsmen have had narrow escapes under similar conditions to make it possible to doubt that the wounded buffalo deliberately adopts these tactics at times with a full knowledge of what it is doing. And when the beast charges, not only does it always charge home, but its great weight carries it unchecked through brush or creepers which hopelessly impede a man's movements; while the mode of its advance makes it peculiarly difficult either to elude it or to stop its rush.

All buffaloes alike appear to charge, not with their heads down, but with their necks at full stretch, their noses out in front of them and their horns laid back. Many authorities testify to the fact that this attitude is maintained until the nose is "within a few inches of," or "almost touching," the object at which the brute is aiming, and not till then, at the very last instant, does it drop its head and with a sudden swing of its neck strike sideways, slashingly, with its great horns. The largest individual Asiatic buffalo horn known is that in

the British Museum, which measures 77⅜in. (or only half an inch less than 6½ft.) along its outside circumference. Many others of 70in. and upwards are on record, and Colonel Pollok speaks of having in his possession the head of a cow buffalo from Burma which measured 13ft. 8in. round the outside circumference of the horns and 6ft. 6in. between the tips, which he calls (probably with justice) "the largest buffalo head in the world." The record African head seems to be about 4ft. between the tips, the individual horns being 53in. long. With such horns as these it is evident that the arc covered in that last sweeping cut is a wide one; and within that arc is, humanly speaking, death. "I have heard," writes Mr. Oswell, "of people avoiding a charge by stepping quickly to one side, but the ground must have been in their favour and they must have been very cool."

He doubts if he himself could do it successfully, a jump of "four or five feet" at least being necessary. But once he saved himself by gripping a bough of a mimosa tree overhead and swinging his legs up to his chin so that the huge beast passed underneath. Less fortunate was the sportsman of whom Captain Glasfurd tells, who, having hidden behind a tree, when the buffalo charged clutched the horns on either side of the trunk, with some desperate notion of being able to hold on. The end was inevitable, the man being tossed aside and gored to death. Nor when the buffalo is coming on will it be stopped by a bullet anywhere but in its brain, and the slope of the fore-

head, as the animal charges with nose out-stretched, offers an extremely difficult shot at a few inches of space below the shield of those massive horns, which Gordon Cumming compared to the "ragged trunk of an old oak tree." As the animal comes on, indeed, the out-thrust muzzle is often higher than a man's shoulder, so that it is not practicable for one standing on the level to aim above it at the forehead. Wherefore some sportsmen advocate reaching the brain by an upward shot at the throat. Another possible shot is obtained by dropping to one's knees and aiming at the chest, but this, "even though right through the heart," however certain it may be to prove fatal later, will not, according to Mr. Selous, stop the charge.

But it is best, no matter what weapons you have, to avoid, if possible, being charged by a buffalo at all. When the brute does get a man down it sometimes seems to show a deliberate malignity in mutilating and maltreating him. Not long ago, near Lake Nyassa, a buffalo charged and knocked down an Englishman, whom it then proceeded to kneel upon, apparently feeling for, and breaking, each rib in succession. This accomplished, it scraped sand over its victim and left him buried almost out of sight. The man, however, miraculously recovered, and was again mauled and almost killed by a wounded leopard a few months afterwards.

Mr. Jackson tells of a bull buffalo which, after having received two bullets, both of which went through both lungs and one grazed the heart, con-

tinued to make it very unpleasant for its hunters, all but succeeding in killing one of them, and only at the last succumbed to the sixth bullet. Colonel Pollok had an exciting time with one which took 39 bullets to kill it, which repeatedly charged and scattered the elephants of the three sportsmen who were its assailants, so badly mauling one of the elephants that it was laid up for four months and was "ever afterwards useless for shikar." Mr. Oswell had his horse killed by a buffalo which he had supposed to be dead or mortally wounded until it got up and charged him. The same authority cites a case of a party of 9 lions which spent the night attacking a herd of 40 or 50 buffaloes and failed to capture so much as a single calf. Another buffalo, though wounded, made a game fight against three full-grown lions, and when it fell it was "killed by the rifle ball, not by the lions."

In India the wild buffalo (as well as the gaur) is commonly reputed to be a match for the tiger, and the latter is said never to attack the tame buffaloes when in a herd; and, as Colonel Percy mentions, the small native child who commonly acts as herdsman, "traverses the tiger's domain in perfect safety if mounted on the broad back of one of his charges."

On the other hand, Gordon Cumming speaks of a "very fine old buffalo cow" being killed by a lion, and does not comment upon it as unusual; while he himself seems to have ridden alongside the wild herds again and again, much as the American hunters rode down the bison, and, picking out his animals, appears

often to have accounted for a buffalo with every ball. As is sometimes the case with individual elephants, the tame buffaloes of India have a well-known and not altogether unintelligent hatred of white people, and Mr. J. Lockwood Kipling speaks of the ignominy of "a party of stalwart British sportsmen being treed by a herd of angry buffaloes and obliged to wait for rescue at the hands of a tiny naked herdsman's child."

The big black Cape buffalo is generally accepted as the typical form of African buffalo, though it is probable that the earliest form of the animal was red or reddish in colour—like the bush cow of the Congo —to the tint of which the young of the Cape form and all other varieties approximate. It has been said above that we recognize only one species, while German authorities have made a separate species of each local race, and in some cases have made species of what are doubtfully distinguishable even as varieties.

Certainly the red bush cow and the big Cape animal are sufficiently dissimilar; but, unhappily, between these the gradation is so complete that it is impossible at any point in the scale to draw a clearly differentiating line. Red and black animals are found in the same herds: indeed in the same families, while the size and curvature of the horns, on which the German authorities chiefly rely, have been well shown by Mr. Selous and others to be often mere matters of age. Not only do horns from the same locality, and from animals belonging to the same company, show wide divergence of form, but after a buffalo's horns have

attained their maximum dimensions, the reverse process sets in and the recurved tips are worn away. It is to be feared that the Continental naturalists have in some cases established new species in horns, which, had the original owner of them but lived a year or two more before being shot (or been shot a little earlier), would have been of the orthodox form of quite a different species.

There are those who believe that, besides wearing away their horns, buffalo bulls grow deaf after a cerain age; but it is extremely difficult to speak with certainty of the senses of any wild animal. Nor is it safe to draw general inferences from even a considerable number of individual cases. Buffaloes of all ages appear to have senses enough (especially with the assistance of the tick-bird) for the convenience of hunters, and the old solitary bull is not seldom the most dangerous.

At one time the buffaloes—"God's cattle," as the Matabele call them—were probably the most numerous of all animals in South Africa, not even excepting any of the antelopes. Mr. Selous estimates that he saw a thousand together at one time, and on another occasion heard the tramping of a passing herd which "for twenty minutes was like the sound of the sea." Mr. Oswell once fell in with a herd so big that in his opinion there must have been thousands "packed together like the pictures of the American bison, and any number of 'braves' might have walked over their backs, as far as I could see, for any distance."

Gordon Cumming also speaks of their vast numbers. Now man and the rinderpest have exterminated them from many of their old haunts.

In some districts of Africa they seem to have saved themselves from immediate extinction by a complete change in their habits. As man has invaded and occupied the open, cultivable country, the buffaloes have retreated into the dense forest which is almost impenetrable to white men. During the day they live in the tangled thickets where vision is limited to a radius of a few feet, and stalking them is impossible, only coming out at night into the open glades to feed.

If, however, the buffaloes are being exterminated there seems to be compensation in the fact that when they disappear the dreaded tse-tse fly vanishes with them. High authorities still refuse to believe in the supposed connection between the two, but the bulk of the evidence, in spite of some exceptions, goes to indicate that the fly thrives only where the buffalo abounds.

This, especially with the example of the American bison before us, will not excuse us if, either in Africa or India, we suffer these "dark children of the mere and marsh" to become extinct as wild creatures; but it is discouraging to consider that it may be difficult to preserve any number of them in their natural haunts, even semi-wild in large preserves, without also preserving tse-tse flies. The latter at least are among the "blithe offspring of the sun" which we can cheerfully do without.

VIII.—Of Gorillas.

Wild animals are commonly divided into the two classes of game and vermin; but it does not appear that any writer has yet had the hardihood to say to which class the anthropoid apes belong. Are they game?

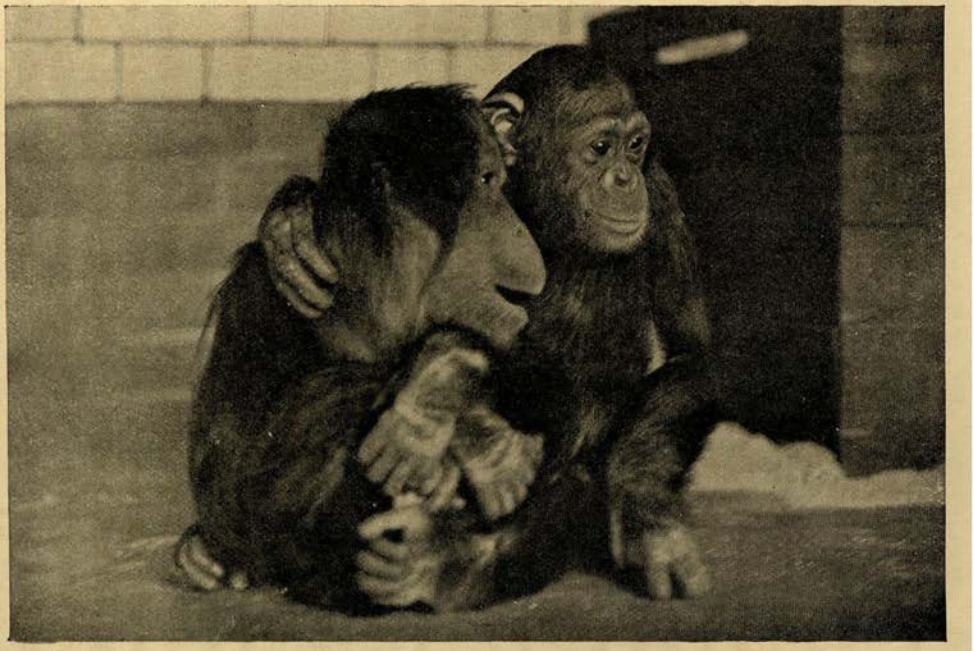
Powers above! If this were an ape, what else were half my expedition? The wounded wood-thing passed its arm round Mabruki's neck, and, taking one of his hands, pressed it to its own heart. A deep sob shook its frame, and then it lifted back its head and looked in turn into all the faces round it, with the death glaze settling fast in its eyes. I came nearer and took its hand as it hung on Mabruki's shoulder. The muscles, gradually contracting in death, made it seem as if there was a gentle pressure of my palm, and then—the thing died.

Life left it so suddenly that we could not believe that all was over. But the Soko was really dead, and close to where it lay I had it buried.

"Master said he wanted the Soko's skin," said Shumari in a weak voice, reminding me of my words of a few days before.

"No, no," I said. "Bury the wild man quickly. We shall march at once."

It is true that the above is from a work of fiction; nor is it necessary to believe that most horrible of all Mr. Rudyard Kipling's stories, "Bertran and Bimi"; but the narratives of those who claim to have killed the great apes in their natural haunts are hardly less uncanny. "I never kill one (a gorilla) without having a sickening realization of the horrid human likeness of



Two Baby Anthropoid Apes

the beast," writes Du Chaillu; and, again, he says: "I protest I felt almost like a murderer. As they ran —on their hind legs—they looked fearfully like men; their heads down, their bodies inclined forwards, their whole appearance like men running for their lives."

There are those, it must be confessed, who doubt whether Du Chaillu ever killed a gorilla at all; but as other of his statements in regard to the great man-things have been proven true, in spite of the incredulity with which they were at first received, it seems unnecessary to discredit the very central incidents of his story.

And was the famous and lamented Sally "game"? Or was she vermin? And Fanny, the present baby of the chimpanzees in the Gardens; what are we to call her, with her clinging childish ways, her appealing gentleness, and the extraordinary pathos, as of unfathomable grief, that seems to lie behind her eyes?

It ought not to be necessary to say that no evolutionist supposes that man is descended from the apes, as we now know them—from the gorilla, the chimpanzee, the orang, or the gibbons. What is certain is that, in Professor Huxley's words, "man in all parts of his organization differs less from the higher apes than these do from the lower members of the same group." If we trace our genealogy backwards, we shall come to a common ancestor of man and the gorilla before we come to a common ancestor of the gorilla and the monkeys. We should have, moreover, to go still

further back before we came to a common ancestor of the monkeys of the Old World and those of America.

To state it again, in a form of which science would not strictly approve: If Fanny is first cousin to ourselves, she is only second cousin to the baboon, and no more than a distant relative, at many removes, to an American spider-monkey or capuchin. It is a striking fact that chimpanzees generally seem to show a recognition of this, in that, by what seems to be a true, if unformulated, "consciousness of kind," they evince no desire to make friends with monkeys which may be given to them for companions, but incline only to fraternise with human beings.

Human babies appear still to bear traces of their arboreal origin, conspicuously in (what every parent has noticed) the strength of grip which, though otherwise so feeble, they have in their fingers. In the majority of cases a baby, given a hand-hold of the proper size, can, when less than an hour old, support its whole weight by its fingers for a period ranging from ten to sixty seconds. A baby three weeks old, in the experiments of Dr. Louis Robinson, has been known to succeed in hanging thus for two minutes and thirty-five seconds; and any adult can satisfy himself of the difficulty of the feat by trying to hang for an equal length of time from an overhead bar. There can be little doubt that this property in the human child is a survival from a time when the young was obliged either itself to hang from branches or keep firm

Japanese Apes

Spider Monkey

hold—as the young of the apes do to-day—to a mother while she moved rapidly about the trees.

The adult gorilla to-day is not much more arboreal than man, its hands and feet having been pronounced "greatly unfitted for climbing trees"; and, while the orang rarely comes to the ground, and some of the gibbons apparently almost never, the old male gorilla rarely leaves it, its usual habit when resting being to sit on the ground with its back against a tree trunk, whereby it commonly has a bare patch worn in the middle of its back.

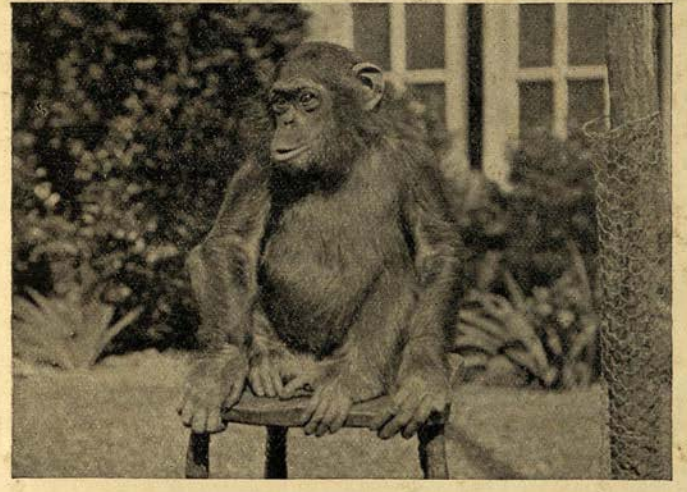
We are already, however, seemingly acquainted with the actual common ancestor from whom are derived both man and gorilla in the so-called *pithecanthropus*, the ape-man, fragmentary remains of which, dating apparently from the pleistocene period, were found in Java by M. Eugène Dubois in 1894. "The animal when erect," says Mr. Beddard, "must have stood 5ft. 6in. high. The contents of the cranium must have been 1,000cm., that is 400cm. more than the cranial capacity of any anthropoid ape, and quite as great as, or even a trifle greater than, the cranial capacity of some female Australians and Veddahs." There are authorities who doubt whether the *pithecanthropus* is, what Haeckel calls it, "the commencement of humanity." If, however, the remains are those of a low race of man, it was a race materially more primitive than any which survives to-day. If they belonged to an ape, it was an ape now extinct and more nearly human than any

that we know. The weight of authority inclines to the view that it was "an intermediate form directly connecting primitive man with the anthropoid apes," —in fact the missing link.

It is, indeed, impossible now to say that there is any hiatus in the continuity of our genealogy. In addition to the *pithecanthropus* and the famous Neanderthal man, there are the cave-man of Chapelle-aux-Saints and the skull found, only the year before last, at Le Monstier, in the valley of the Vézère. These beings were not accidental malformed individuals—idiots or cripples—as was argued of the Neanderthal man. They are the remains of a race the members of which had what we are pleased to call more brutish intellects than any present race of man. They seem to have been not much above 5ft. in height and to have walked with bent knees in their hind limbs. Presumably they were covered with hair; more certainly, they made themselves rough tools or weapons, and individuals who died were buried by the survivors with some degree of care.

What, then, do we mean by "human"? To say that no creature which makes for its use tools or weapons is other than human, and that these creatures did so and therefore they were men, is but arguing in a circle. Man and the gorilla are two different species; but in the unbroken line of their common ancestry it is impossible to select any one characteristic which belongs to the one and not the other. If we had the skeletons of all the generations ranged before us no

"Sandy," Orang



"Sally," Chimpanzee

one could lay his hands on two of them and say of one, "This was the last of the apes," and of its neighbour, "This was the first of the men."

It is a pity that the ancients were not acquainted with the great apes, for we can conjecture what a delightful, if terrifying, fairyworld of myth and legend would have been built around them. When in the mythologies of Egypt and India, in the worship of Thoth and Hanuman, such honours were entwined around mere dog-apes and monkeys, what divinity would not have hedged about the gorilla and the chimpanzee? But even our grandfathers hardly knew them.

The "gorillas" of Hanno the Carthaginian, the wild men and women with hairy bodies, which, when he found them on an island somewhere on the West coast of Equatorial Africa, climbed the precipices, and "defended themselves with pieces of rock," can hardly have been other than baboons; and though, when the exploration of Africa began, reports from time to time were spread of wild ape-men lurking in the forest about the equator, it was not until 1819 that Bowdich told, with something like exactness, of the existence of a creature which was doubtless the true gorilla, and not until 1847 that Dr. Savage succeeded in collecting a fairly comprehensive account of the great ape, in which some myth was intermingled, and in bringing back to America, and thence to Europe, bones enough to enable Professor Owen and others definitely to identify an animal different from the orang or chimpanzee, then officially named, and since known as the gorilla.

It was the narrative and exploits of Dr. Savage that sent Du Chaillu to Africa in 1855, and we are probably safe in believing him to have been the first European who killed a gorilla or, indeed, saw one in its native haunts. The controversy provoked by the publication of his "Adventures in Equatorial Africa" in 1861 is a matter within the memory of the present generation.

Thus recent, then, is our knowledge of the great African anthropoids, the gorilla and chimpanzee; though it is uncertain whether there are not three or four kinds of the latter. Du Chaillu confidently distinguished three species; and other authorities have recognised at least one more, even while discrediting some of his. The tendency to-day, however, is to count all chimpanzees, however much they may differ in general tint, in colour of the face, in shape of the ear or in arrangement of the hair, as varieties only of one and the same animal. The remaining large man-like ape (for the gibbon, though properly associated with the others, is so different in external appearance as hardly to be recognised as anthropoid), the tawny-haired orang-utan, is not African, but an inhabitant of Borneo and Sumatra; and here again, though attempts have been made to establish several species of orang, none has been satisfactorily defined. There is at present no gorilla in the Zoological Gardens, but the collection of seven chimpanzees and four orangs is probably the largest and best now in existence. Of these Mick, the big chimpanzee, though not as big as, for his age, he ought to be, is probably about fifteen

years old, having been in the Gardens for thirteen years, the longest period, it is believed, for which any of the great apes has yet been kept alive in Europe. Another of the chimpanzees, Jack, has been in the Gardens for over five years, and the largest of the orangs, Sandy, was received only a year later than Jack, and is not improbably older than he.

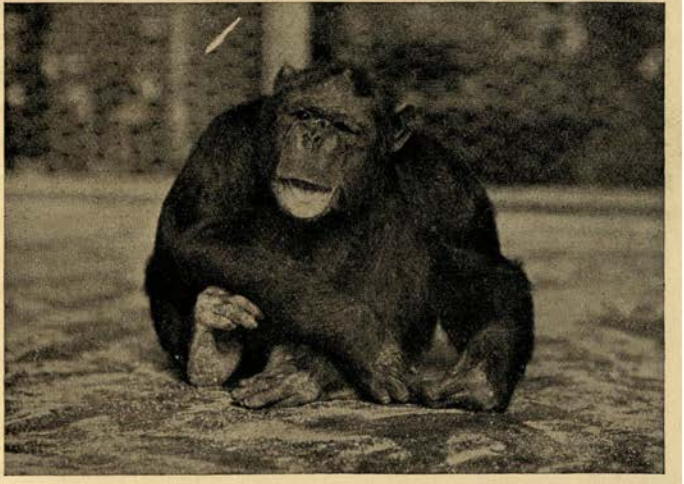
This comparative longevity of the great apes in Regent's Park is due, apart from the excellent care which they receive, to the admirable construction of the present Ape House with, above all, the glass screen which separates the cages from the public, the latter doubtless imagining it to have been erected entirely for their protection. Behind that screen the temperature is kept almost stationary the whole year round, so that the creatures do not catch cold or die of lung or throat troubles. A worse enemy, however, to the poor beasts than the English climate, before the erection of the screen, was the kindness of the public. Experience has shown that no amount of official warnings or personal watchfulness on the part of the keepers will prevent the unthinking visitor from giving to an animal, an ape or monkey especially, the most cruelly unwholesome things to eat. Behind the screen the apes no longer suffer from intestinal disorders.

The lack of reference to the great apes in ancient literature is in a measure compensated for by the native legends which have grouped themselves around the mysterious "men of the woods." Besides the creatures which science consents to recognize, there is a grim

collection of wild man-things which have been invented in various countries—the Fesse, the Eastern cannibal ape which entices its victims into its traps by mimicking the laughter of girls; the Susumete, which one European, who saw one killed, declared to have been "as much a man as himself"; the Indian Mum, part-bear, part-man, part-ape; the wild hairy man of Surinam which carries a club and, the natives say, tries when dying to talk in human speech; and, in particular, the Soko. We first hear of the soko from Livingstone, who assumed it to be the gorilla, though many of the things which he tells of it, as well as his sketches, seem to point rather to the chimpanzee. Stanley, in "Through the Dark Continent," has much to say of the soko, but leaves its identity an open question. He brought home with him, however, two skulls and pieces of skin, all alleged to be "soko." The skin was pronounced to be that of an ape, probably chimpanzee, but the skulls were human, "not different," Professor Huxley said, "in any sensible degree from the ordinary African negro."

It was easy, then, for the imaginative to jump to the conclusion that the authentic man-ape had been found, the creature with human head and hairy ape-body and ape-structure. But the true explanation is probably more prosaic—namely, that the skulls belonged to human beings (whatever the skin may have been), and the savages who gave them to Stanley knew them to be human, but called them soko to conceal the fact, as savages have often done, that they themselves were

"Jackie," Chimpanzee



"Mickie," Chimpanzee

cannibals. The creatures to which the skulls belonged had undoubtedly been used as food. In his later book, "In Darkest Africa," Stanley therefore identifies the soko with the chimpanzee, and such we presume it to be; but there are yet difficulties if we accept Stanley's observations as accurate. He speaks, for instance (in the earlier book), of the "hoarse growl of the fierce and shy soko," and (in the later) of "the deep bass roar which indicated the presence of a family of sokos or chimpanzees." The chimpanzee is not "fierce," nor does it seem possible for any one to call it so. While, again, the gorilla growls hoarsely and also has a roar so like thunder that Du Chaillu declares that he more than once confused them, these are not the voices commonly assigned to chimpanzees, which have been described by various authorities. They have a sharp alarm cry, said to be indistinguishable from that of a woman in pain. They "bark" or "give tongue like foxhounds." There is the wailing "koola-koolo," on which Du Chaillu based his unestablished species of the kooloo-kamba, and there are various minor sounds expressing fear or contentment or anger; but if Stanley's sokos had only (and no other cry is mentioned) the "growl" and the "deep bass roar" it is hard to believe that they were chimpanzees. The confusion not improbably arises from the name "soko" or "soko minstu" (which appears to mean only "man of the forest") being given by the natives to more than one species. Mr. E. Torday (in a letter to the *Times*) says that the name was given to a gorilla by natives in the region of Stanley Falls.

Of all the existing man-apes—the "speechless ones," or alali, as (with some lack of consideration for Dr. Garnier's experiments) they have been called—the gorilla is beyond question the most formidable, a large male standing not infrequently over 5ft. 6in. in height, and bones being known of one which apparently measured in life no less than 6ft. 2in. It is not, we now know from experience in the Gardens and elsewhere, always when young quite so "utterly untameable a beast" and so "entirely and constantly an enemy of man" as Du Chaillu represented; but it is savage and morose enough. It is still uncertain whether in a wild state, except in the immediate moment of attack, it ever actually walks erect without either resting its knuckles on the ground or supporting itself by a branch overhead, but that it does beat its fists upon its breast when enraged (Du Chaillu says that he heard the noise "like a great bass drum" at a distance of a mile) is established; and when the male gorilla turns, as seemingly it does, to confront man fearlessly when attacked, with its huge size, its great hairy limbs, and hideous head set almost down into its shoulders, we can believe that "no description can exceed the horror of its appearance." Add that the gorilla usually lives in the depths of forests where the light is so dim that it is difficult to see any object clearly at a distance of more than a few yards, and it is not to be wondered at that the natives have invested it with attributes even more horrific than those which it possesses.

The African negro, it must be remembered, cannot be conscious of any such gulf between himself and the man-apes as we feel to exist between them and us. It is not surprising that many believe the gorilla to be human. Others hold that, though itself a beast, it is often informed with the transmigrated spirits of the human dead. It is said to lie in wait crouched on the lower branches of trees overhanging a path, and when a human being passes, to drop one of its long hind limbs, and, clutching the victim by the throat so suddenly and in so terrible a grip that hardly a sob is heard, to drag it—man or woman—up to its lurking-place. It is credited with capturing and stealing women and carrying them off to keep them in the forests. It is, of course, all myth, but the stories tell how sometimes the women come back. More often they do not; but later, other things appear, dreadful offspring of the captured women and their captors, which hang about the villages, friendly, yet much to be dreaded, for they in their turn will also carry off human wives if they can.

Armed with a club the gorilla is said to attack and beat off elephants. The formidableness of the great apes as compared with other beasts, however, is not an easy matter to pass judgment upon. In Africa it is noteworthy that the lion and the gorilla do not occur together, and it has been conjectured both that the lion has exterminated the gorilla within its territory and that the gorilla has driven out the lion.

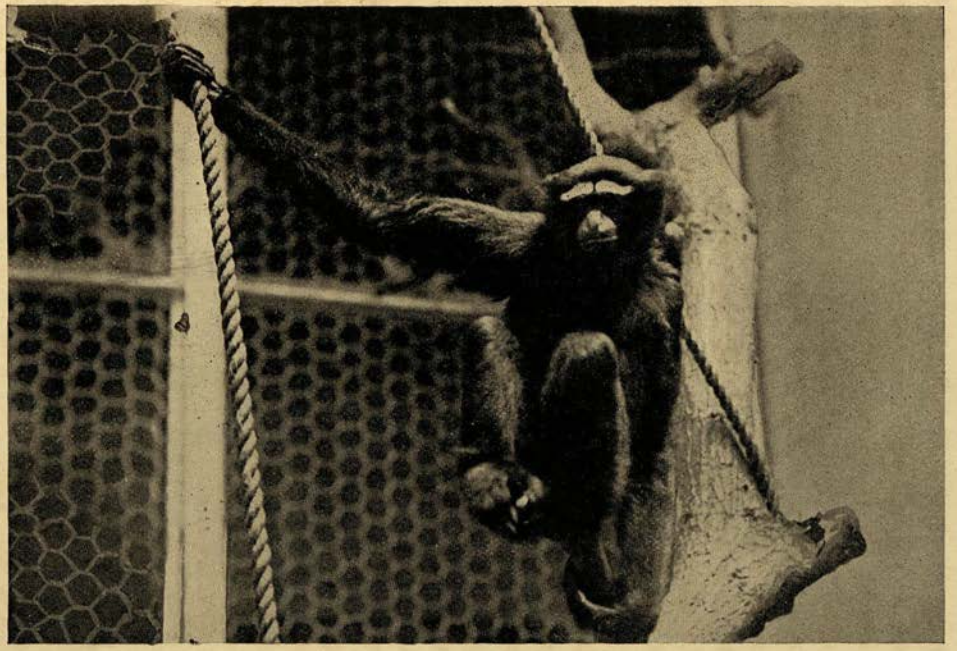
More than one old writer has recorded that " When

the lion is sicke he healeth himselfe with the bloode of an ape"; but it is difficult not to believe that if the lion was at all badly sick he might find his medicine, whether great ape or little monkey, rather hard to catch. According to African medicine-men nothing is so good as a charm of gorilla's hair to give a man a strong heart, which doubtless has the justification that the man who succeeds in procuring such a charm for himself is likely to be a person of some stout-heartedness—afterwards no less than before.

In Borneo the most serious neighbours of the orang are the python and the crocodile, and the natives say that the ape overcomes them both, the python by seizing and biting it and the crocodile by leaping on its back, clutching it by the upper jaw, and by sheer main strength tearing it open. It has been said, and quoted by various writers, that the name "orang" is in itself a title of honour, meaning roughly "wise one," the Malays giving it alike to their chiefs, to elephants, and to the "wild men." But this appears to be a misunderstanding.*

* Mr. Nevill Kendall, writing to the *Times* from Perak, in the Federated Malay States, says :—

The word "orang" is not a name at all, but an ordinary Malay word meaning "man" or "person"; and the term "orang utan" (or hutan) —pronounced órang ótan, not oráng outáng (but with the accent on the first syllable of each word)—signifies "jungle men," and is frequently applied by the Malays to the aborigines of Malaya, but not in any way as a "title of honour." The only instance I know of in which it can be said to be so applied is when a group of Malay chiefs is called the "orang ditapan" (literally "eight men"), or "orang ampat" ("four men"), and so on, to indicate their status in the *rôle* of chiefs of a State. I have not in the course of fourteen years' residence in the Malay States heard the word applied to an elephant, and I do not think such an use of it is by any means possible.



Hoolock Gibbon

The orang in a state of nature, as has been said above, rarely comes to the ground, but lives almost entirely in the tree-tops; but, even so, it is less arboreal than the gibbons. There are few more wonderful sights to be seen in the Zoo than that afforded by the agile gibbon when it is in high spirits and flinging itself about its cage in earnest; but its performances in these comparatively narrow quarters can give no idea of the swiftness and abandon of its movement when it has all the forest for a playground. A correspondent in Johore, who has kept many gibbons as pets, writes me that he doubts if of their own accord they come to the ground at all. When caught young they will learn to get along on all fours at a fair pace, but never so fast that a man cannot easily run them down. A gibbon caught when adult, however, is practically helpless on the ground unless there is something for it to hold on by, the length of its arms and the shortness of its legs making it quite unfitted for movement on the level, an operation for which it seems to have no idea how to set about using its limbs.

My correspondent believes that it relies entirely on the dew on the trees (on the rain in the wet season) for its water supply; and he cites in support of this belief the fact that gibbons in his possession caught when grown up will not drink water from a saucer or other vessel, but dip their hands in the liquid and then suck it off the hairs of the fingers. Those caught as babies, having, it is conjectured, had no opportunity to learn the wild ways of their tribe by imitation of their elders,

can, however, be taught to drink straight from the saucer. Natives of the Straits Settlements say that the gibbon does occasionally come to the ground, when it is very easily caught; but there is still lacking the evidence of a white man who has actually known one to have been so found on the level.

The chimpanzee does not, as has been said, appear to be naturally fierce and hostile to man,—still less to woman. Generally very shy and timid, they seem, on first coming in contact with human beings, to be filled chiefly with curiosity; and many stories are told of their meeting solitary natives and examining them all over and letting them go unhurt. Less pleasant is the account given by Stanley of their catching a man and biting off all his fingers, one by one, spitting each out again as it was bitten off.

Perhaps, however, no native myth or story eclipses in wonder the statement of Emin Pasha, made seriously, that in the Mbongwe forest the chimpanzees used to come to rob the banana plantations in troops, bearing torches to light them on the way! "Had I not witnessed this extraordinary spectacle personally," he is reported as saying, "I should not have believed that any of the Simians understood the art of making fire." Unhappily we, personally, did not witness it.

Both the chimpanzee and the orang build themselves platforms or nests, the former more or less habitually for sleeping purposes, while the latter is also said to cover itself with leaves when it rains; and in these habits Darwin thought he saw "the first steps towards

architecture and dress as they arose among the early progenitors of man." In structure, so alike are man and a gorilla that, though the two are easily enough distinguished, it is scientifically "by no means easy to find absolutely distinctive characters which are other than 'relative.'" So alike are they that every organ and bone and muscle and tendon in man has its counterpart in the apes; and Du Chaillu tells of the shock that it was to him when he first saw a baby chimpanzee ("nshiego") and found that its face was white—"*very* white indeed: pallid, but as white as a white child's."

Even more appealingly human than any resemblance in structure or in external appearance are certain of the ape traits. The gorilla is believed to be the only beast which generally *approaches* man, when meeting him for the first time, neither fleeing from him nor, unless previously attacked or provoked, showing hostility. In captivity gorillas seem to die often not of any recognised malady, but of mere home-sickness. In their wild state the great apes have none of that tenacity to life which characterises most large beasts, but they are easily killed—as easily as a man. Some natives say that the apes can talk if they will, but do not only for fear that man will catch them and make them work.

And yet, as one looks at the latter here in the Ape House with their strange human ways, pathetically broken by purely brute irrelevances, the essential fact which impresses itself on one's mind is that they—the

"half bipeds," the alali which "cannot speake and have no understanding more than a beast"—the one conviction which obliterates everything else is that they are not men, but only apes.

IX.—Of the Monkey Folk.

When Ravana, the black Rajah of the Demons, stole Rama's wife, peerless Sita of the lotus eyes, it was Hanuman, the monkey king, who found her where she was hidden in Ceylon. Bidding all his warriors join hands, he made them into a line which stretched across India; and thus they swept the peninsula from north to south, searching every thicket and ravine as they went. Arriving at the coast, Hanuman saw far off the cloud upon the sea which marked where Ceylon lay, and leaping across he found the missing one. Then followed the terrific battle in which Rama and his monkey allies ultimately prevailed, and Ravana being slain, Sita was reunited to her lord.

So Hanuman, the long-tailed grey langur, became a god; and there is a tradition among natives of India that all Europeans are descended from Hanuman (while he was still a monkey) by a female slave of the demon king. This we may prefer not to believe: but that the main incidents of the gigantic episode are true is proven by the fact that it was in attempting to fire a stronghold of the demons that Hanuman scorched his hands and feet, and black they remain in witness to this day.

And they are better black. However questionable may be the etymology which allies the word monkey with *homunculus*, or "mannikin," we are compelled to admit a resemblance between ourselves and the

> quick-chattering apes
> That yet in mockery of anxious men
> Wrinkle their brows.

We admit it up to a certain point. But any approach to flesh-colour in a monkey's skin is going too far. Two smallish monkeys there are in the monkey-house now which have little flesh-coloured hands and rosy finger nails, while their palms are as red as if they had been eating strawberries. They are pale-furred creatures, known respectively as Jamrach's and Hamlyn's mangabeys; but science does not know whether they are freaks in coloration or whether they represent true species; and it is impossible not to hope that they are only freaks. All our human instincts cry out against pink-fingered monkeys.

Du Chaillu's emotions when he first saw a baby chimpanzee with its face whiter than his own are easily understandable; and most uncanny of all the inmates of the house, or of the Gardens, is surely "John the Chinaman," the tiny bald-headed hybrid monkey (offspring of a rhesus and a common macaque) with its little white wrinkled face, extraordinarily mobile in expression and shockingly like a miniature human Chinese, not much over a foot long, but centuries, centuries old. Even the red of the faces of the Japanese apes (of which three, two parents and a baby,

Hamlyn's Mangabey

Chacma Baboon

are in one of the outdoor cages), for all that we are so familiar with the colour in Japanese paintings, and though it is too ruddy to be human, has a disagreeably un-beastlike suggestiveness which compels us to wish that they affected countenances black or grey or even agreeably particoloured, decorated with sky-blue and vermilion patches, like that of the great mandrill itself.

Æsop's ape, it will be remembered, wept on passing through a human graveyard, overcome with sorrow for its dead ancestors, and that all monkeys are willing enough to be more like us than they are they show by their mimicry. An old authority tells that the easiest way to capture apes is for the hunter to pretend to shave himself, then to wash his face, fill the basin with a sort of bird lime, and leave it for the apes to blind themselves. If the Chinese story is to be believed, the imitative craze is even more fatal in another way ; for if you shoot one monkey of a band with a poisoned arrow, its neighbour, jealous of so unusual a decoration, will snatch the arrow from it and stab itself, only to have it torn away by a third, until in succession every member of the troop has committed suicide.

Here in these out-door cages by the monkey-house one may see any day a manifestation of human quality which one can admire without reservation or forfeiture of one's human pride ; for in the next cage to the Japanese apes is a large female chacma, the dog-faced baboon of South Africa, which has an immense yearn-

ing to become possessed of the next-door baby. If a visitor teases the little thing, or if its parents use it roughly, the chacma flies to the wires which separate the cages and, with every indication of anger, tries to get in to protect the helpless one. According to Mr. J. Lockwood Kipling, the parental instinct in langurs sometimes goes to unnecessary extremes, for bereaved mothers have been known to carry about with them the dead and dry bodies of their children for weeks, nursing and petting them as if they were still alive.

In their wild life baboons, as well as langurs and many other monkeys, undoubtedly submit to the authority of recognised leaders. There is co-operation between them to the extent that, when fighting in company, one will go to the help of another which is hard pressed. Mr. Hagenbeck has told the story of the great fight in which an army of baboons estimated to number 3,000 (*sic*) were arranged against a party of his hunters. Baboons, which generally live in large packs or herds, are caught by being trapped in big cages, the hunters waiting until the cage is full before pulling the cord which shuts the door. It appears that the leader of a herd, always a powerful old male, has a way of keeping jealous guard over the cage-door and only allowing such animals to go in as he chooses—presumably those which, on some recognised principle of the herd code, have a right to precedence. So the cages are built double-ended; and those which are prevented from entering by the front door go round

and find access at the back. On this occasion the cage was full and the cord had been pulled, whereupon :—

> The whole army hurled themselves savagely upon the hunters, who defended themselves as best they could with fire-arms and cudgels. They were driven back, however, by sheer force of numbers; and the victorious baboons made short work of the cage and released their imprisoned friends. Many touching scenes were witnessed in this battle. One little baboon who had been injured by a blow from a cudgel, was picked up and safely carried off by a great male from the very midst of the enemy. In another instance a female, who already had one infant on her back, picked up and went off with another whose mother had been shot.

One is surprised, in this account, to find no record of loss of human life; but though writers of fiction make free use of baboons, pets or wild, which tear human beings to pieces, the incident in real life seems to be extremely rare. No authenticated cases seem to be quoted by authorities, and diligent enquiry among African big game hunters and residents of districts where baboons are numerous has failed to bring a single instance to light. That baboons are terrible fighters there is no doubt; and horrid tales are told of their ferocity in attacking other things than man.

Once, so the story goes, a large solitary baboon was seen to enter an empty building—stable or barn—on a South African farm. The door was shut behind it and it was trapped. There was a large half-bred mastiff, a so-called lion-dog, upon the place; and, after some consultation, it was decided to turn the dog into the building and let him kill the baboon. This was done. For the space of a minute or two there was a terrific uproar inside, followed by silence. The dog had

evidently finished his job. So those without threw open the door, and, as they did so a brown shadow slipped out and flew past them; and, looking inside, they found the interior of the building littered with pieces and limbs of dog.

An adult baboon should be more than a match for any man unarmed, while a moderate-sized pack—one including from 40 to 100 individuals, such as is commonly met with—could make short work of even a party of hunters, whatever their weapons. Nor, perhaps, has any man ever found himself unexpectedly in the presence of such a pack without considerable misgiving. Natives are generally much afraid of them; yet it does not appear that baboons ever do actually kill man. On the other hand, just as boys scare rooks at home, a single man or boy will keep them away from a field of ripening maize, a thing which, when unprotected, they dearly love to raid.

In rocky ground baboons roll down stones upon their enemies, and when making a raid, as on an orchard which they believed to be guarded, the attack has been observed to be conducted on an organised plan, sentries being posted and scouts thrown out, which gradually felt their way forward to make sure that the coast was clear, while the main body remained in concealment behind until told that the road was open. From the fact that the sentries stayed posted throughout the raid, getting for themselves no share of the plunder, it was assumed that there must have been some sort of division of the proceeds afterwards.

Chacma Baboon

We have already seen how difficult it is for man to find, on biological grounds, any clear line of demarcation between himself and the apes. All gregarious or social animals seem to develop a communal system, often in extreme exactness of detail, even among creatures, as in the case of a bee colony, relatively low in the scale of existence. It has been mentioned in a previous chapter that wolves show not only an obedience to pack-leadership, but also the ability to hunt on a preconcerted plan. But the organisation in a colony of baboons, or in one of Indian langurs, seems to our minds much more nearly human than anything which is done by bees or wolves. Not only in such a battle as that mentioned above, but in the daily life of a simian community, situations must constantly arise calling for initiative and for the exercise of personal qualities in action which it is impossible to classify as instinctive.

Man, again, has been differentiated from other creatures as being a tool-using animal; but the distinction has recently been shown to be invalidated by — once more—the example of an insect, in this case wasps of a certain American species, which use a small stone to tamp down and make level the surface of the ground about their nests. It is not yet certain whether some of the great apes do, as has been alleged, or do not make for themselves clubs or sticks which they use in helping themselves along the ground, deliberately fashioning them by stripping the bark from one end to furnish a hand-hold. Whether

this be true or not it seems to be well established that more than one species of monkey in a wild state use a stone with which to crack nuts which are too hard for their teeth.

The whole simian family is divided by naturalists into two main groups, one of which is restricted entirely to the Old World and the other exclusively inhabits the New. It is a fact, from which the present writer declines to draw any inferences, that the structural difference between the two is chiefly a nasal one; and it is worth noting that only in the invigorating, invention-breeding air of the New World have monkeys thought of using their tails as an extra hand. Not all American monkeys are prehensile-tailed, any more than all human Americans invent typewriters or gramophones; but no prehensile-tailed monkeys exist elsewhere.

It is only an American monkey, again, one of the sakis, which has learned to use its hand as a drinking cup, to avoid dipping it is supposed, its luxuriant beard in the water. The case of the gibbons, mentioned above, which suck the water from the hairs of their fingers, has not, it is believed, been recorded before; and it is uncertain whether it is a habit characteristic of the species or only the trick of certain individuals, otherwise all the Old World species, so far as is known, continue to mess their chins and faces by thrusting their muzzles down into the stream or pool; and a fascinating field of conjecture is opened to the believer in the influence of environment in the relation

that may exist between the politer method of drinking of the American saki and the notorious preference of human Americans for taking their drinks through straws rather than put their lips to the liquid.

Most of the American monkeys in the Gardens have been removed from the monkey-house to other quarters, the only representative of the New World now in the house being a spider monkey, which is in a cage by itself; and, seeing how the Old World Powers crowd its frontiers on every hand, it is appropriate that the spider monkey should come from Venezuela. The spider monkey's tail is so extremely prehensile that it has been reputed to have eyes in the tip. Certainly the member seems to have the faculty of letting go of one hold and reaching, of its own foreknowledge, for another, without any need on the monkey's part to turn round to see where the tail is going. Man also finds the spider monkey's tail of use, for when a keeper takes the creature for a walk to lead it from one place to another, he leads it not by a hand but by its tail, which is vastly more convenient as a handle for the man and seemingly equally agreeable to the monkey.

Most notable among the other monkeys which inhabit Central and South America, though for widely different reasons, are the squirrel monkeys and the howlers. The former have a cranial capacity, in proportion to their size, not only greater than any other monkey, but even greater than man himself. The howlers are perhaps the noisiest of all created

things. Being gregarious, they assemble often in troops numbering some hundreds, and when all howl together "nothing can sound more dreadful" says Waterton, and Humboldt mentions having heard the uproar at a distance of over two miles. And while they thus make most noise, it is a fact, which seems to have a wider than merely simian application, that they possess the poorest brains of all monkeys.

To many people the whole ape-family is represented only by the common roadside species, the associate of organ-grinders (usually what naturalists know as a common macaque), and the one detail universally known about their habits is their persistent fondness for searching each in its neighbour's fur, for fleas. Like most popular beliefs in natural history, this detail is erroneous—for, in truth, monkeys are very free from fleas, and the object of the patient foraging is not any living thing but a scurf which is thrown off by the skin and is said to have a saltish taste which pleases the monkey palate. It would almost seem, however, as if they loved the search for its own sake; for the writer has been acquainted with one sanguine monkey which never tired of rummaging hopefully in the fur of an old and headless toy rabbit.

There are in all something over 200 species of apes and monkeys, and 40 of these are now represented in the Gardens; and they differ, both in appearance and disposition, almost as much as animals can. Nothing could well be more forbidding in aspect, or in fact more evil-tempered, than the great mandrill, George

Mandrill

(yet horrific though the beast is, a mandrill has dined with Royalty at Windsor); but, on the other hand, the guerezas have beautiful coats, and the legend goes that they are so well aware that it is for their fur only that they are hunted, that when they see men coming they deliberately tear their own skins and pull out the hair by handfuls in order to render themselves not worth shooting. It would, again, be difficult to find any creature more engaging than the baby mona (one of the large family of guenons) with the beautiful gradations of colours in its fur, its gentle ways, and plaintive little voice. Pleasing appearances and gentle tempers, however, do not always go together, even in monkeys, and the vervets, charming to look at, are the most spitefully savage animals in the monkey-house. Notable among the macaques is a fine Barbary ape, the famous Capitoline goose of Gibraltar—though as to how the monkeys originally got upon the Rock science has not yet made up its mind. Some believe that they were imported, others hold that they were there in the days when the Rock was joined to the mainland, while yet a third theory maintains the existence (at least in a former age, if now perhaps choked up) of a subterranean tunnel from Gibraltar to the African coast. A somewhat similar displacement of monkeys from their natural habitat occurs in the West Indies. On the islands of Barbados, Nevis, and St. Kitts, monkeys exist (in parts of the two last-named islands in sufficient numbers to make them a serious pest to fruit and sugar-growers), which are certainly members of the

Old World group and apparently identical with a cercopitheque (*C. calitrichus*) found in Sierra Leone. The ancestors of these monkeys were undoubtedly brought from Africa, probably in slave ships in the 17th century.

A near relation of the Gibraltar apes is the Indian wanderoo, with its black face peering solemnly out from a great grey mane, giving to it a lion-like dignity which makes it the pride of the travelling menagerie, in which it is commonly known as the King of the Monkeys. Science is less complimentary, having conferred on it the name *Silenus*. As a matter of fact most monkeys (like the majority of animals) when given the chance show a liking for strong liquor, which is why, according to the old medical doctrine of antipathies, a snail is the best antidote to the effects of drink :—"The ape of all things cannot abide a snail; now the ape is a drunken beast . . . . and a snail well washed is a remedy against drunkennesse."

Drunkards or not, however, monkeys in at least one particular possess a shrewd taste in liquors, for they are said to be able infallibly to detect the presence of poison. Many centuries ago it is said that no Chinese or Hindu king was without his monkey as official poison taster; and the story is told of how a man in India had endeavoured impiously to poison the monkeys that came to plunder his crops. First he set himself to gain their confidence, and fed them daily with rice put out for them in a dish, until the time came when he thought that he could successfully add the poison.

But that day the monkeys would not eat the rice. They gathered round the poisoned dish and discussed it and looked at it, but would not taste it. Then, of one accord, they went off into the woods and came back with twigs of a certain tree, a certain antidote to the poison used, with which they stirred the rice over and over in the dish. Having thus made the stuff innocuous, they fell to and ate it greedily.

It is not surprising that it was in the stomachs of some of the monkeys that the most precious bezoar stones were found, though the invaluable things were more particularly associated with the Peruvian sheep—the llamas, the guanaco, and vicuna—most especially with the second of them, whence they were also known as "guanaco stones." The name bezoar is said to be derived from *ped-zahr*, poison-expelling, and the pharmacopœia of the Middle Ages contained no medicament more prized. The stones are in reality "calculi, which are deposited in concentric layers, usually round some undigested fragment of vegetable matter." But an old Chilian writer tells us more about them:—

"The matter out of which they are made are herbs of great virtue, which the animals eat to cure themselves of anything they ail, and preserve themselves from the poison of any venomous creatures as serpents, or poisonous plants, or other accidents. The stones are found in the oldest animals, their heat not being so strong as the heat of the young ones, they cannot convert into their substance all the humours of the herb they take to remedy their indisposition; and so Nature has provided that what remains over may be deposited, and made a stone to cure in men the same infirmities."

The stones did, indeed, cure almost anything.

Merely to keep one's self in general good health all that was necessary was to put a bezoar stone to soak in water (just like a lump of sulphur in a dog's dish), and drink the water. The longer it soaked the better was the water. In more urgent cases, a little of the stone powdered and taken in water "comforts the heart and purifies the blood exceedingly." Unfortunately monkeys which carried these stones were well aware of their value and were extremely shy of covetous man. Wherefore bezoars which came from apes were even more valuable than those which came from llamas.

One instinct, mysterious to us, some of the monkey-folk, baboons especially, possess in greater degree seemingly than any other animal, namely, the instinct which tells them how to find water. They need no divining-rod such as human diviners use, but appear to be guided unerringly to the presence of water under the surface of the ground, and with their hands they scratch their way down to it.

Of the baboons, the dog-faced ones, including the mandrill and chacma already mentioned, there are six kinds now in Regent's Park; and most honourable among them is the sacred baboon of the Egyptians, Thoth himself, the lord of letters—"deification of the abstract idea of the intellect." Sometimes the Egyptians seem to have made haphazard choice of gods; but one needs but to look at Thoth here in his out-door cage to understand why they chose him as the type of wisdom. Hour after hour he does nothing

but think, sunk in Diogenes-meditation so profound that no Alexander would dare to interrupt. And what is it that they think about so hard, the apes and monkeys?

That their thoughts have no relation to their actions is obvious; for not one of them but will sit for half-an-hour, graver than Confucius, only to break off suddenly to pick with intensity of concentration a straw to pieces, to leap ridiculously up and down on four stiff legs as if suspended by an elastic in mid-spine, or to pull a neighbour's tail as it hangs from a perch above. It was not of these things that it was thinking—it could not have been of any mere terrestrial thing, for half their contemplation, if directed to the affairs of earth, must long ago have made them wiser than any man, yet they remain less than children and fools. A sage among men is often but an infant in the practical affairs of life.

It is an old anecdote which tells of a very learned professor who stepped off a tram-car while in motion, and he landed in the road dispersedly—hat, books, umbrella, spectacles scattered from gutter to gutter. Whereupon the car-conductor, looking on, soliloquized: "H'm! Knows more than any other living man, does he? He doesn't even know which foot to get off a car on!" So these folk think too deeply ever to learn anything of use; keeping their thoughts always in the skies, playing with great abstractions, ranging in infinities, they fail to get in touch with every-day affairs, and remain to the last but apes. And one can but

regret that in their high thoughts they do not find more cheer, for there is no monkey which even in its wildest romps is not a victim of settled melancholy. Is it, as has been suggested, that, with their ancient lineage, they still remember the flood as a personal grief? Or is it that they know that they are doomed some day to extinction at the hands of man, and it is the foreknowledge of that which makes them sad?

It was an old belief that apes were merry when the moon was waxing and moody in the wane. It may be that in this grim climate of ours they have settled to a belief that the moon will never wax again; or is it only that they still bewail the lost opportunity of that day, long ago, when their ancestors took the wrong turning at the parting of the ways and failed to find the road that might have made them men?

X.—Of Crocodiles.

The crocodile lays eggs. It should be set to the credit of the classical education that Englishmen generally have a reasonably firm grip on this important fact in natural history; for who, having been through any school wherein Arnold's Exercise Books were used, has forgotten that bewildering page whereon, in the "Vocabulary," appeared "Crocodile the, Κροκόδειλος, ὁ" (the definite article imperiously insisting on the masculine gender), while the "Exercise" below contained the perplexing statement that "The Crocodile lays eggs"? The pupil was thus reduced to the terrifying alternative of deliberately disobeying Dr. Arnold, or of outraging the promptings of his own common sense as to the gender of maternity. Nor does the resultant confusion appear to have been without effect on the minds of the crocodilia themselves, for the largest of the Mississippi alligators in the Reptile House is "Dick." It has never been anything but "Dick." In spite of which it indulges in periodical bouts of egg-laying. Thus is Dr. Arnold tardily justified; and the crocodile (ὁ) does indeed lay eggs—no fewer, in a wild state, it is said, than 70 at a time.

One of the reasons, indeed, given by old writers for the crocodile being worshipped in Egypt was the some-

what cryptic one that it "laid three-score eggs and lived for three-score years"; but from 20 to 30 is the common number of eggs found in a "clutch." In the reptile's easy code of ethics, however, its parental responsibilities end with the act of oviposition; for, having covered the eggs with a layer of sand, it leaves the sun to do the rest (whence, doubtless, Shakespeare's "your mud and the operation of your sun"), and leaves it also to the ichneumon to do its worst.

In some places it seems that water tortoises, too, eat crocodiles' eggs; but the ichneumon is the real desolator of crocodile homes, scratching up the nests and eating or breaking the entire "sitting" at a meal. Crocodiles' eggs, however, are absurdly small, a mother 20ft. long being content with an egg no larger than that of a goose; and the newly-hatched young, hardly more formidable than a common newt, are preyed upon by birds which a little later the rapidly growing crocodile would like nothing better than to get within its reach, as well as doubtless by many other things, including old crocodiles themselves. On sentimental grounds one would like to accept Southey's picture of royal reptilian domesticity as drawn from life:—

> The King of the Crocodiles there was seen,
> He sate on the eggs of the crocodile queen,
> And all around, a numerous rout,
> The young prince-crocodiles crawled about.

But it may be as well for the princelings that the old crocodiles, the eggs having once been satisfactorily laid, lose interest in their whereabouts, for the old

Group of Crocodiles and Alligators

crocodile is a hearty and unscrupulous feeder. It might not impossibly shed tears—crocodile's tears—in the operation ; but its tender grief would not, in all probability, prevent it from eating its own young as readily as it eats anything else.

The incorrigibly female Dick is one of the patriarchs (or matriarchs, for it is really very confusing) of Regent's Park, its residence there of 33 years being only a few months less than that of the present mother of the Zoo, the King's elephant. But though, on the estimate of her age at the time she was received at the Gardens in 1876, she is believed now to be nearly 50 years of age, she has refused to grow to more than 7ft. in length—the crocodile who won't grow up. The well-remembered "big-alligator" which died some ten years ago (its familiar name in the Gardens was "the Little 'Un") measured over 12ft., but was of so phlegmatic and peaceful a disposition that the keeper commonly found it convenient, when doing anything to the tank in which it lived, rather than get his boots wet, to rest one foot on the Little 'Un's back—a fact which gives some credibility to the story of surely the most precarious promenade on record, that of the British officer who is said (according to Mr. J. Lockwood Kipling) to have walked across the famous crocodile pool, the Mugger Pir, near Karachi, using the backs of the reptiles as stepping stones, just as a Canadian lumberman rides the floating logs.

Dick, however, is of a more uncertain temper. For the most part amiable enough, she is periodically seized

with fits of madness (one would be tempted to speak of it as *musth*, but for those confounding eggs again), when the smaller, and fortunately more agile, inhabitants of the tank, which include three other Mississippi alligators, a broad-fronted West African crocodile, and one Nilotic specimen with its tapering snout, find it necessary to keep well out of their companion's reach. More than once the keeper has thought it best to keep Dick muzzled with a rope knotted round its jaws until the fit had passed.

Crocodiles, at least in captivity, are often worse than hounds, in that, when two begin to quarrel, it seems necessary for all to join in; and Mr. Hagenbeck tells of a terrifying experience when a number of alligators, from ten to twelve feet in length, were being unpacked from boxes and turned into a pond. The first four came out quietly, but the fifth and sixth rushed at one another without any apparent reason.

"In a few minutes the whole basin was a compact knot of snarling animals biting savagely at each other and lashing the water wildly with their tails. Seizing each other with their powerful jaws, the stronger would dash about in the water, dragging the weaker one with him, the jaws of the latter snapping impotently at his foe. The water was splashed high into the air and gradually became red with the blood from many frightful wounds. We could do nothing but look on, except, indeed, to fill the basin with water, so that the weaker animals might find refuge underneath."

The following morning—

"All the warriors lay prostrate on the battle-field, every one of them shockingly mutilated and two quite dead. These two had the whole of their under jaws and a great part of their upper jaws split in pieces. Of the other four, two had had their forelegs nearly torn off and hanging only by a shred of skin. The fifth had its eye

torn out, and the sixth had the end of its tail bitten off. With the exception of the last, they all died within a week."

In all, the Gardens in Regent's Park possess to-day nearly thirty crocodiles, alligators, and caymans together, though all are comparatively small. Many people, it is to be feared, have an idea that there is one creature known as "the crocodile" and one as "the alligator," without, perhaps, much certainty that even those two are distinct; though every Anglo-Indian knows at least the *mugger* and the *garial*. Until recently science itself was of the belief that crocodiles belonged exclusively to the Old World and alligators to the New. We know now that there are true crocodiles in America (the difference after all is chiefly one of shape of the head and arrangement of the large teeth), and alligators, equally true, are found in Asia; and, with the possible exception of the little musky cayman from Brazil, the Chinese alligator (*A. sinensis*) is the gem—if very much in the rough—of the Reptile House.

One of the treats of the Zoo is to hear the alligators roar. Few people know that they roar, and fewer still ever hear them; but while the crocodiles make little sound beyond the snapping of their jaws (and that can be loud enough), the American alligator bellows, with an awe-inspiring, shattering noise, not unworthy to be compared to the roaring of lions or the trumpeting of elephants.

Here in the Gardens they are often silent for months together; then the need of utterance will seize one of

them; and, when one begins, all join in, making the whole house to shake, the stone floors to vibrate, and the water to bubble and boil around them. It is a pity that they cannot be made to roar to order; for if it could be announced that "the alligators will roar at 3.30," the performance would soon come to be a more popular entertainment than the feeding of the lions. But they are wilful creatures (as "headstrong as an allegory on the banks of the Nile," as Sheridan delightfully has it), and roar only when the whim seizes them, breaking out, it may be, several times in a week and then relapsing again into long stretches of silence. Curiously enough, the Chinese alligator does not roar. He barks, in disjointed, staccato fashion, as one might expect from an inhabitant of a land where they speak a monosyllabic tongue.

Of the different species, the Indian *garial* seems to attain the greatest length, sometimes reaching not less than 30 feet and probably growing even larger. There are those who believe that the crocodile of the White Nile sometimes rivals this prodigious size, but the case does not appear to be proven; while the Mississippi alligator seemingly stops at about 15 ft. A python may, perhaps, grow as long as the largest *garial;* and other quadrupeds besides the elephant may weigh more. But for length and girth combined one would be tempted to say unhesitatingly that the crocodile was the largest creature, not purely aquatic, now existing in the world, if it was not for one perplexing and fascinating possibility.

So sane and experienced a man as Mr. Carl Hagenbeck seriously believes in the probability of the existence in the interior of Rhodesia of a monster such as we are accustomed to consider antediluvian,—"Some kind of a dinosaur, probably akin to the brontosaurus." It seems that reports from a number of sources all agree on the main point, namely, that in the middle of great swamps there lives "an immense and wholly unknown animal," half-elephant and half-dragon, and Mr. Hagenbeck declares himself "almost convinced that some such reptile must be still in existence."

He has actually sent one expedition to look for the monster, which was obliged to return without any satisfactory proof one way or the other; but he has not abandoned the search and still hopes, he says, to be able to introduce this new, but so old, beast to a sceptical world. The discovery of a similar monster was reported a few years ago from one of the South Sea Islands; but that story appears to have been a hoax. Since the finding of the okapi, almost anything seems possible; but it is long since science dreamed any such dream as the possibility of seeing again a brontosaurus in the flesh.

If it is ever found, what will its voice be? Will it out-roar lion and ostrich and alligator alike? One imagines that in the days when the huge saurians lorded it over an unfinished earth, they must have raised their long necks above the grasses and the swamp growth and roared prodigiously:—even as that great

sightless Thing roared which heaved up from the ocean's bed, lifted its blind face over the taffrails (in Mr. Kipling's "A Matter of Fact") and sent its great voice booming like the note of a syren over the sea.

But for all their roaring the real horror of the members of the crocodile tribe lies in their usual noiselessness. "They swim with great silence, making scarcely even a ripple on the water," says M. Du Chaillu. Mr. Abel Chapman speaks of a 12-foot crocodile slipping off the bank into the river without making a visible movement of the water; and the terror of the stealth of their approach is well conveyed in Mr. Rudyard Kipling's "Ripple Song":—

> "Wait, ah! wait, the ripple saith;
> Maiden, wait, for I am Death!"

The first sight of an alligator or crocodile, however large, sunning itself on a mudbank and pretending to be a stranded log, is usually disappointing; and if it be lying with its mouth open, as in the sunshine they all love to do (wherefore, seeing them remaining so immovably in what looks like so strained an attitude, many visitors to the Gardens go away declaring that the crocodiles are stuffed), it becomes almost absurd. But when you have come upon one unexpectedly with its head and forequarters out of the water, and have seen it slide noiselessly back until it disappears, and then, even while you still watch the place where it vanished, not a movement having so much as made

the surface of the water quake, the hideous thing suddenly, still in complete silence, thrusts itself out upon the bank, many yards away, it may be further off or nearer to you, to lie, a mere snag at the water's edge, waiting for whatever may come within its reach —whether you or another—the dreadfulness of the thing is very chilling. Du Chaillu says that he "never saw so horrible a sight" as when hundreds of crocodiles lay clustered on the black mudbanks.

Sir Samuel Baker tells of the cunning of crocodiles which advance at an animal without any concealment, and then, as if in disgust at their failure, turn and swim away, still in sight, only at last to sink below the surface and, returning without a ripple to betray them, rise immediately below the quarry, which has by this time returned to drink in fancied security. By this trick he saw them again and again catch birds which settled on branches overhanging the water. The chief food of most members of the family, and probably the entire food of some, is fish. On receiving a bullet one has been known "suddenly to disgorge dozens of small silvery fishes." But now that we know that a full-grown rhinoceros can be pulled into the water and killed by a crocodile, we may believe that few living things do not at one time or another fall victims to them. It is said that when once their jaws have closed upon an enemy, their heads may be beaten to pieces, but they will not let go; though there are seemingly well attested cases of men (and women) who, having been seized by a crocodile, have per-

suaded it to loose its hold by digging their thumbs into its eyes.

He esteemeth iron as straw and brass as rotten wood . . . .
Upon earth there is not his like, who is made without fear,
He beholdeth all high things: he is a king over all the children of pride.

So says the writer of the Book of Job in what is in many ways one of the best descriptions of the crocodile that has been written. "Horses, oxen, buffaloes, boars, mules, and camels" is a list which one writer gives of animals which are known to have been eaten by crocodiles in Egypt. In South America jaguars and tapirs have been seen being seized, pulled into deep water, and drowned; while as for man, consider the Mugger of Mugger Ghaut in Mr. Kipling's gruesome tale "The Undertakers." It adds, perhaps, to the disagreeableness of the creature that, unless it be too hungry to wait (and crocodiles can go a long time between meals), it prefers to keep meat until it turns putrid, either because it likes the taste better so, or because the food is then softer and more easily torn to pieces.

Nor has the "king over all the children of pride," the "dragon that lieth in the midst of the river," many enemies to fear. According to old writers the ichneumon, besides eating crocodiles' eggs, would run into the full-grown animal's open mouth and so down its throat, whence, after revelling for a while amid Leviathan's vitals, it ate its way out of the dead carcase victoriously to daylight. The "hydra," it seems, did the same. But the dolphin's method was the more

artistic, for, being provided with a knife-edged dorsal fin, it swam underneath "the encased crocodiles" and sliced clean open the soft, unprotected parts below. There existed also some doubt whether the crocodile bird, or zic-zac plover, which enters the open mouths of crocodiles to feed upon the pickings of their teeth, did not somehow kill the monsters:—

> The puny bird that dares with teasing hum
> Within the crocodile's stretched jaws to come.

Undoubtedly the bird (Spenser's "little bird called Tidula") was the reptile's master, for it—

> . . . . forced this hideous beast to open wide
> The grisly gates of his devouring hell,

there to feed on the "black venom" within. Wherein one ingenious if irreverent commentator has put to the word "venom" the simple gloss—"? vermin."

In real life, however, the large crocodilia have probably no enemy but man, and even man without modern firearms was nearly helpless against them.

> The sword of him that layeth at him cannot hold; the spear, the dart nor the habergeon.

"Canst thou draw out Leviathan with an hook?" asks the sacred writer. Herodotus says that in his day they could, using a pig for bait. In India we know that they have been caught with goats, and M. Du Chaillu tells that in Africa the Anengue "harpoon them with a rude jagged spear." Diodorus, however, averred that they could only be taken in iron nets; and the general belief that they were beyond the power

of man to capture is reflected in the medal which Augustus struck to commemorate his conquest of Egypt, with the crocodile chained to a tree and the proud legend, "No one has bound me before."

If in Egypt they bound the crocodile at all, it seems to have been with garlands of flowers and chains of gold and gems, a proceeding which probably interested the crocodile only in so far as it offered a chance of a succulent garlander coming within reach. The promiscuous beatification, which was shared with such things as cats and beetles, was after all but an indifferent compliment, nor even so was it seemingly universal among the Egyptians. "Those about Thebes and Lake Moeris consider them to be very sacred . . . but the people who dwell about the city of Elephantina eat them." Which fairly redressed the balance; but we must conjecture that, whether for worship or for the table, the crocodiles were caught young.

Here in the pools in the Reptile House one may see, on a small scale, how crocodiles swim, or lie about upon the water, with only their nostrils and eyes showing, the difference between the two in inches being a rough indication of the length of the whole animal in feet; and the manner in which the eye is the first noticeable part of the creature to rise above the water may well have given to the Egyptians the idea of using the crocodile's eye as the hieroglyph for morning or the dawn.

> By his neesings a light doth shine, and his eyes are like the eyelids of the morning.

In an infinite number of details the creatures are admirably adapted to their way of life; the apparatus by which they are enabled to keep their mouths open under water, so holding a large animal ddwn until it drowns, without a drop of liquid going down their own throats, although by lifting the tip of their nostrils out of water they can still breathe, is pronounced by naturalists to be "beautiful." But when all has been said to the crocodile's credit, whether of its cunning, its voice, its ancient honours, or the adaptation of its structure to its environment, the chief characteristic of it remains its stark repulsiveness.

Buffon seems to have been more than half inclined to classify the crocodile among the insects; and, so little was the scheme of the animal world then understood, he appears to have had no better reasons for not doing so than that the crocodile was too "terrible" a thing to be included in such company. It *is* terrible in any company. Prester John, giving a list of the most horrific things imaginable, claiming that they all lived in his country, enumerated "camels, crocodiles, metacollinarum, cammetennus, tensevetes, white and red lions, white bears, crickets, griffins, lamias, wild horses, wild men, men with horns, one-eyed men, men with eyes before and behind, centaurs, fauns, satyrs and pygmies." It is an astonishing list, but, allowing all thinkable evil attributes to the metacollinarum, the cammetennus and the tensevetes, there is nothing in the whole catalogue so unpleasant as the simple word "crocodiles."

Mr. Chapman quaintly defends himself for failing to follow up a wounded animal, which he coveted, across a stream believed to contain crocodiles by the remark that "an intense aversion to reptiles possesses most of us"; and even more quaintly Mr. Hagenbeck lays it down that "no real friendship can be established between these savage reptiles (crocodiles) and human beings."

Do you remember De Quincey's most awful dream?

I fled from the wrath of Brama through all the forests of Asia; Vishnu hated me; Seeva lay in wait for me. I came suddenly upon Isis and Osiris; I had done a deed, they said, which the ibis and the crocodile trembled at. Thousands of years I lived and was buried in stone coffins, with mummies and sphinxes, in narrow chambers at the heart of eternal pyramids. I was kissed with cancerous kisses by crocodiles . . .

Ugh!

XI.—Of Snakes.

Structurally a snake is a lizard which has lost its legs. Not that all legless lizards are snakes, however, for the common British blind-worm or slow-worm (which is very far from blind and quite evasively alert) is not a snake, but a lizard, possessing both eyelids and external ear-openings, which true snakes have not.

In some of the large serpents vestiges of the legs are still visible, left doubtless as perpetual witnesses to the fact that there was a time when, uncursed, in Eden—

> The serpent was the prelate of the place.

Then it went, we know,

> . . . not with indented wave
> Prone to the ground, as since, . . .

but at least semi-erect. "Pleasing was his shape and lovely" then, Milton tells us, though Milton does not explicitly mention that the serpent, even in its days of bliss, had limbs. At least one learned divine has since argued earnestly for the view that before the Fall the serpent was an ape, quadrumanous. Modern science, however, while acknowledging the legs, declines to acquiesce in any ancestor of the ophidians more upright than a saurian.

The largest of the three pythons now in the Zoological Gardens (and there is, besides, one anaconda*)

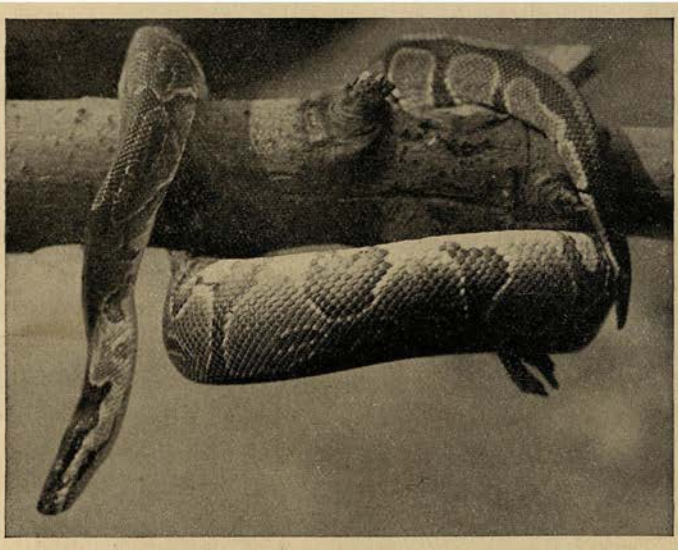
* This has since died.

measures 25ft. in length; and it had its first meal of the calendar year, 1909, on October 1. It had condescended to a few trifling snacks, in the shape of a duck now and again; but it was not until the date mentioned that it found appetite enough for a regular meal in the form of a goat. Thereafter it appeared to think better of the world in general and was ready for another goat a few weeks later.

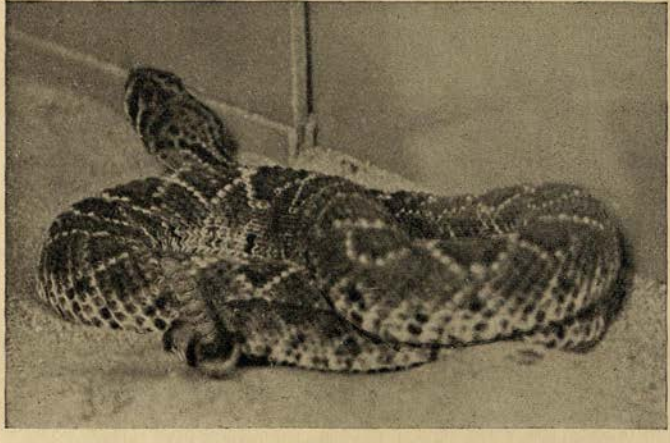
So long a fast is by no means unexampled, for one python in the Reptile House a few years ago declined to take any food for 22 months; and it is not unusual to feed a snake artificially, a lump of meat having been put into the mouth and pushed with a stick as far as it will go, being then coaxed down by stroking until the creature's internal mechanism has begun to work. A snake's method of swallowing its food is, indeed, almost entirely automatic, and, once started, may be said to be involuntary. Says Professor Gadow:—

> The snake, having got hold of the prey with its teeth, generally shifts it into the most convenient position in order to swallow the head first. One half of the mandible is then pushed forward, then the other half; the recurved teeth afford the necessary hold, and the snake, little by little, draws its mouth cavity, and later itself, over the prey. In fact it literally gets outside it.

When the operation has fairly begun it is perhaps easier for the creature to continue eating than it is to reverse the process and eject any object; ordinarily, doubtless, an admirable provision of nature, the occasionally disastrous consequences of which were, however, illustrated by the famous tragedy in the Gardens 17 years ago, when one boa of some 10ft. in length



Royal Python



Rattlesnake

swallowed another only a foot shorter than itself and succeeded in digesting it. The catastrophe occurred at night, but there is no doubt what happened.

One of the snakes had seized a pigeon, two of which had been put into the cage, and the other must unfortunately have selected the same bird and taken it from the other end. The tip of the nose of one snake was drawn into the mouth of the other in company with the pigeon, and, after it, the rest of the snake continued to go. One may surmise that the eater must have been not a little surprised at the almost intolerable length of what it had believed to be an ordinary pigeon, and one may imagine with what amazement it found its widow's cruse of a bird getting stouter and stouter, foot after foot, and with how much relief it welcomed the moment when its victim began to grow perceptibly smaller towards the tail.

The next morning only one of the snakes, the larger, was visible, and from its enormously extended body it was evident that it had swallowed its companion. It had no longer the power of curling itself round, but remained extended to its full length in a straight line, and appeared to be at least three times its normal circumference. It was almost painful to see the distended skin, which had separated the scales all over the middle of the body. Twenty-eight days later the snake had not only digested its companion, but had regained its appetite as well as its normal size, and it immediately swallowed a pigeon put into its den.

Though the gourmand died soon afterwards, its demise was not seemingly connected with its extraordinary meal. Mr. Hagenbeck tells of an Indian python which ate four lambs in the course of 24 hours and "burst open to the length of about a foot, the

two edges yawning apart to the width of a couple of inches." Even from that the snake recovered. The same authority records an unbroken fast on the part of another Indian python of 25 months.

All snakes, when inclined to eat, seem to lack discrimination in the selection of their victuals, and more than one instance has occurred of boas, when in captivity, swallowing their blankets. But a blanket, however appetizing, and though not difficult (for a snake) to swallow, obstinately resists digestion, and it is a meal which the snake has never been known to survive. Many books on natural history in the last generation presented their readers with pictures of a boa or a python in the act to swallow an ox or stag which lay crushed within its coils, and so eminent a naturalist as Cuvier evidently believed that it was not an impossible accomplishment. The very name "boa," indeed, is believed to be derived from *bos*, because it swallows oxen; but it is a feat which would need a snake considerably larger than any which science is yet willing to recognize.

Both the reticulated python and the anaconda (which is a semi-aquatic, semi-arboreal boa) grow to a length of 30ft.; and how much beyond that either may go is a matter of conjecture. A gigantic snake of hitherto unheard-of proportions has an obvious advantage in ease of credibility over a correspondingly exaggerated quadruped, in that it demands credulity only in one dimension. The quadruped must be swollen in height and length and breadth proportionately; and imagi-

nation fairly boggles at a lion as big as a haystack. But a snake does but need taking by the two ends and pulling out. Like any other line, it can be indefinitely extended in either direction.

In a 30ft. anaconda we already have a considerable instalment of the impossible; and if it exists, why should there not be pythons of 50ft., or sea-serpents of 100ft.? What is there incredible in Shesh with his mile or two of coils wrapped round him in his gem-lit cavern beneath the Assam hills? Or even in Anantas himself—

> . . . . . that serpent old
> Which brooded over earth and the charmed sea?

Shelley's

> . . . . arrowy serpent pursuing the form
> Of an elephant . . . .

does not seriously outrage our sense of the probabilities. The ancients, indeed, found the mere elongation of their snakes too simple a matter to be satisfying, so they gave them multitudinous heads, hydra-like, or crowned them as basilisks, or fitted them with wings and made them into dragons to be slain for the glorification of heroes and demi-gods.

So common, indeed, in ancient sculpture is it to find snakes adorned with crowns, combs, wattles, or some other addition to their heads (in Mexico they seem to wear plumes of feathers, like Indian chiefs), that it has been suggested that it is a relic of some reptile which actually existed in pre-historic times. Probably the practice has a more commonplace origin. It takes no

small skill in draughtsmanship to portray the true horror and majesty of a snake's head. A poorly drawn snake is no better than a worm; and early artists, acutely aware of the inadequacy of their pictures, may easily have adopted a conventional way of obtaining by adventitious means some portion of the subtle horror which escaped them.

Yet surely, even as they are, the large snakes are terrible enough, with, save for the chilling hiss, their voicelessness and the secrecy of their movements ("more hid than paths of snakes"); the grim wickedness of what Ruskin called "the long dumb trench" of their lipless mouths and lidless eyes; the slow, proud, balancing rhythm of their head and neck, so full of the consciousness of the awful strength that is held in suspense behind, and the deadly suddenness of the attack when that power is unloosed; the terror of their "strong-curling" bulk, in grip of which no living thing but is helpless as the tightening folds close, pitiless as bands of living metal, and as cold!

It is no wonder that the snake so twined itself about the imagination of early man that in almost every country we find traces of snake-worship. Its trail runs through the myth and legend of every people, and such honours have clustered round it as have, perhaps, not been lavished on all other created things combined.

It is unfortunate that to the majority of English-speaking people of this day the most familiar acquaintance among the Boidæ is the python Kaa, the saviour of Baloo and Bagheera in the fight in the Cold Lairs;

for Mr. Rudyard Kipling's natural history is not unexceptionable. "The fighting strength of a python," Mr. Kipling assures us, "is in the driving blow of his head backed by all the weight and strength of his body"; and he describes how Kaa released Mowgli from the marble prison wherein the monkey folk had thrust him :—

Kaa looked carefully till he found a discoloured crack in the marble tracery showing a weak spot, made two or three light taps with his head to get the distance, and then, lifting up six feet of his body clear of the ground, sent home half a dozen full-power, smashing blows nose-first.

And the marble walls crumpled in a cloud of dust. Unhappily, in real life the nose seems to be the python's tender spot, and he would as soon think of using himself as a battering ram against a marble wall as he would of eating himself from the tail up.

This belief that the great snakes use their heads like sledge-hammers is very general; and I have received a considerable mass of correspondence on the subject. I am indebted to Mr. S. Eardley-Wilmot, C.I.E., for the record of a python which "struck a blow at a fowl which sent it staggering and bleeding to a distance of several feet away, and many minutes elapsed before the snake advanced on the dying bird." A correspondent at Eton College writes :—

"Some years ago I had a python which I could never tame. Until the day of its death from misadventure, and I had it for nearly a year, it would strike at any moving object with its nose, but never attempted to bite. On one occasion, when striking at me it cracked the glass of the cupboard in which it was kept. The glass was thin and the blow was not a very hard one. The animal was only six feet long."

Pythons, and most snakes, in captivity, especially at first (though some never become "tame"), make a constant feint of striking at anything which they do not like. Against an object which they know to be soft, and of which they are not afraid, they may push the thrust home; and they may well learn that it is a useful way of crippling such a creature as a fowl. But against an enemy of any size the feint is not a method of fighting, but a method of frightening: to a man the blow arrives as little more than a gentle tap. The great snake's real weapons are the crushing muscles in its coils, and when it attacks in earnest, it strikes with its head, if at all, only to get a grip with its teeth (in large quadrupeds the grip is usually on the back of the neck), while, simultaneously, and almost instantaneously, its coils are flung round its victim.

Often—probably in the large majority of cases—the attack is made from above, generally from the overhanging branch of a tree, and the actual process has been observed several times. The mere weight of the body of a large snake, slipping suddenly down upon it, must, to any but the largest animal, in itself be crushing. The bite of a non-poisonous snake, though in the case of a large python by no means a thing to be despised, is seemingly only used against adversaries of any size as giving a fixed grip to enable it to bring the crushing power of its coils into play.

Instances of snakes breaking the glass behind which they are confined are not uncommon. The blow is

aimed at something beyond the glass and, even though only a feint, when brought up suddenly against an invisible barrier, it lands very hard. But no snake ever set itself purposefully to hammer the glass with its nose. On the contrary, they generally soon learn by sore experience the whereabouts of the unpleasantly unyielding obstacle in their way and, for the sake of their noses, cease to try to reach things on the other side.

Were it otherwise a python 25ft. long and weighing over 300lb. would probably not stay long behind his plate-glass screen in the Reptile House. The short-tempered member of the big snake family in Regent's Park is the second longest python—16ft. from nose to tail—who has been in the Gardens for 17 years, and is familiarly known as Yellow Face. When Yellow Face becomes aggressive a rap on the nose always brings him to his senses, and as a weapon wherewith to hit him a folded newspaper serves as well as anything.

Nor, it seems almost unnecessary to say, can snakes either stand upon their tails or "leap" upon their adversaries. Except the cobras, so far as is known at present, no snake can raise more than one-third of its length from the ground, though there is good reason to believe that some smaller snakes, especially the American rattlesnakes, when coiled against a rock, do sometimes succeed in projecting themselves forward beyond the ordinary range by getting, probably involuntarily, a leverage against a rock behind them.

But the snake of its own muscles can strike, roughly, only within a radius of one-third of its length. Within that radius may lie death, but an inch outside it is certain safety.

The notion that snakes can "leap" for great distances is, however, another error which dies hard. When the foregoing paragraph was first published a correspondent at Westcliff-on-Sea wrote:—

"I am unable to agree with this. I have seen a puff-adder leap or throw itself through the air at a companion of mine in Bechuanaland. It was a moonlight night, and the snake flashed through the air a distance of at least two yards, and would have undoubtedly struck my companion in the throat or face had he not been an old cavalryman. Fortunately his old training of eye and hand came to his aid, and he was able to cut it down with a stick just before it reached him."

Moonlight nights are very deceptive. Once, some years ago, a companion and myself, in a remote part of the North Western United States, fell in with a small but very venomous snake which, its retreat being cut off in the open, pluckily assumed the aggressive and kept advancing in the direction first of one of us and then of the other. For some time we contented ourselves with fending it off with our sticks. At last I aimed at it a back-handed blow when, presumably, it saw the stick coming and struck at it. Such was our explanation of what happened, for the resultant of the two forces of my sideways stroke and the forward thrust of the snake was disconcerting, for the snake rose from the ground and "flashed" over my shoulder unpleasantly close to my face. Had it been on a

moonlight night, we should both doubtless have been prepared to vow that the reptile deliberately "leaped" at me.

Nor—and again the statement is almost superfluous—is any of the great crushing snakes, any python or boa, furnished with poison. An anaconda, already "the superb dictator of the Brazilian forests," if equipped with the venom of asp or cobra would be too terrible a thing to have a place in the scheme of nature. If it chose to slay in wantonness, no other creature could live in the same haunts. Yet there was a time, according to a legend of the Karens, when the python was the only poisonous member of the snake family, and so venomous was it then that it had but to bite a man's footstep on the ground, no matter how long since he passed or how far away he might be at the time, and the man would die. But one day the python was informed, wrongly of course, by that immemorial liar the crow, that a man whose track he had bitten had not died, and, in a fit of rage and pique, the serpent climbed a tree and spat out all its poison. Then other creeping things came and swallowed it.

The legend is quoted in full in the Cambridge Natural History from Mr. Mason's "Burma, its People and Productions":—

The python made the other creatures promise not to bite without provocation. The cobra said, "If there be transgression so as to dazzle my eyes, to make my tears fall seven times in one day, I will bite." So said the tiger (whose bite the Karens esteem as virulent as a serpent's) and others, and they were allowed to retain their

poison. But the water-snake and frog said they would bite with or without cause as they liked, so the python drove them into the water, where their poison melted away and their bite became harmless.

So we have some cause for gratitude even to pythons, for it would be bad if every common frog was a cockatrice.

And in its wild haunts the python, especially when it has newly changed its skin, is more beautiful in colour than one would ever guess from seeing it here in the reptile-house. Keats's famous description—

Eyed like a peacock and all crimson barred—

does scant justice to its splendour.

Not even the plumage of the bird of paradise can excel the purples, blues, and gold of a python that has just cast its slough, while an infinite and terrible interest underlies those iridescent charms from the fact that the coils, soft as rose-leaves and shot with colours like a dove's breast, can crush the life out of a jaguar in all its rage and slowly squeeze it into pulp.

But neither its beauty nor any tale of its generosity will ever make men like a snake. The old curse lies between our heel and its head, and it is the eternal antipathy of our natures—of man erect, hot-blooded and gifted with speech, and the other cold, silent, and going on its belly—that makes the Lamia myth, the legend of things half human and half snake, more horrid than any figment of mere ape-woman or wolf-man. Milton, plumbing the depths of horror for some supreme humiliation for Satan and his followers,

found nothing worse than to change them into serpents. And on them it is still—

> Yearly enjoined, some say, to undergo
> This annual humbling certain numbered days,
> To dash their pride.

To be changed into a snake is degradation even for a fiend.

It is to be feared that many otherwise excellent people believe that poisonous snakes "sting" with their tongues; the little flickering tongues which are forked because the snakes split them in licking the food of immortality from the sharp-edged Kusa grass. Some of the poets, indeed, make snakes "whet their stings" before going out to slay; and there is higher authority for the misconception than that of any secular writer. "They have sharpened their tongues like a serpent," says the Psalmist; and similarly the writer of the Book of Job, "the viper's tongue shall slay him." And as it plays, almost like a shimmer of lightning, about the snake's nose, the tongue looks wicked enough to be charged with the "high-concocted venom" of all the basilisks; but it is a harmless and, to the snake, an extremely useful member.

There are some insects, as certain ants, which science believes to be possessed of a sense with which we are unacquainted, at least in a like degree, located probably in the antennæ—a "relational" sense, a sense of "topographical smell," by which the creature is made aware, by a function other than that of sight, of the presence of other objects, their distance and direction.

There is some evidence that a similar sense, a sense of "touch at a distance," resides in a snake's tongue, whence the constant play of it about the lips when the creature's curiosity or interest is aroused. But it does not sting. Still less (though undoubtedly many writers have thought otherwise) does a snake "wound" with its tail.

The venomous snake, indeed, is armed enough with nothing but its fangs, which in some species are erectable at will, as its claws are thrust out by a cat. In most species the poison is conducted down the fang by a small open channel, by way of which it travels from the poison sac; but in a few this channel becomes roofed over, so as to make a closed canal emerging only near the very point of the fang; and this, ensuring that the venom will be injected into the very deepest part of the wound, Professor Gadow has justly called "a perfectly devilish contrivance."

But mankind has always preferred fiction to fact in the natural history of its serpents. It is not very many years since the Royal Society itself listened in all solemnity to a "relation of the production of young vipers from the powder of the liver and lungs of vipers"; and it has again and again been recorded that young vipers, immediately after birth, kill their parents; not, presumably, because there is any tittle of evidence in support of the accusation, but merely because it is the kind of thing that one would expect young vipers to do.

Akin to this is the belief, which is still widespread,

that young snakes, when danger threatens, seek safety by running into their mother's mouth. Many persons, some of them far from incompetent observers of nature, are convinced that they have actually seen the thing happen; but a substantial reward, offered by the *Field* newspaper, for conclusive evidence in support of the belief, remains unclaimed. The fact is that the adder is viviparous, bringing forth its young alive; and the new-born adder is an extremely active thing. A female adder is found with young ones about her, and while she is being killed the little things escape. Very possibly they first wriggle towards and behind their mother, when it would be difficult to see whether they slipped —tiny, grey, swift-running, whip-like things as they are — into her mouth or not. In the subsequent proceedings they slip off and escape. But lo! when the mother has been killed she is found to be full of young adders alive, identical in appearance with those which were recently seen around her. The conclusion that they are the same creatures is natural. Unhappily, in every snake thus killed which has afterwards been properly examined, the young have been found not in the stomach but in the womb, where they could not possibly arrive by way of the adder's mouth. They are, indeed, simply young adders as yet unborn.

Nor much better founded, it is to be feared, is the almost universal belief that snakes fascinate their victims, rendering them powerless to get away. Science, at all events, has not yet been presented with any

evidence which it can accept as establishing it as a fact. That mere terror can rob a creature of the ability to escape is, of course, well-known, and in a former chapter it has been suggested that the horrific aspect of a tiger's face, with its strange markings, has such an effect on many animals. And almost all animals have an instinctive and superlative dread of snakes.

Mr. Hagenbeck tells how, in 1874, a "somewhat feeble specimen of a python" escaped in his so-called carnivore house, in which, however, a somewhat motley collection of creatures was confined :—

"I ran quickly to the spot, and the confusion which I found there would be difficult to describe. Every animal in the house, without exception, was in a state of abject terror. They could see nothing and think of nothing but the escaped reptile. The lions, panthers and other great beasts were springing about their cages as though they had suddenly gone mad, dashing themselves against the bars with loud roaring and mewing. The apes and parrots were shrieking, so that the din was hideous."

Many observers have told of the terror which all animals alike seem to show when they catch sight of a great snake moving in the forest trees. Anyone who has camped or hunted in a snake country knows how afraid of the reptiles are horses and mules, which generally become aware of a snake's proximity long before human beings are conscious of it. Archdeacon Bindley informs me that in the high woods of Trinidad horses will sometimes refuse to go on when a dreaded "bushmaster," unsuspected by the horse's rider, is lurking on the path, "perhaps more than a hundred yards ahead." The mere imitation of a snake's hiss,

if sufficiently well done, sometimes suffices to throw horses, and probably other animals, into a panic.

In many countries birds are often seen fluttering about a snake in what looks like helpless terror, while the rhythmical swaying of the reptile's lifted head strongly suggests the weaving of a spell such as Kaa wove for the *bandar lôg*. In truth the snake is a rifler of nests and the birds are doing their best, often quite without regard to their own safety, to keep the enemy away from their home. The effect, as of some evil magician irresistibly attracting a crowd of helpless victims, is heightened when a number of birds, not necessarily all of one species, unite in mobbing the snake, just as in England a similarly heterogeneous army may combine to worry an owl.

Most terrible of all the tales of this power of fascination is the Indian belief in the snake which merely lies still upon the ground and whistles softly; and as it whistles all the little beasts of the field are compelled to come to it, walking up to its jaws till it chooses to open them and select its victim. The evidence necessary to convince naturalists that either the Krait or any other snake has any power of fascination, beyond the simple fear which any creature may feel at the sight of imminent death, is still wanting.

On the contrary, the behaviour of animals in the presence of snakes is extraordinarily contradictory. Just as we have seen in another chapter how American bison used to appear indifferent to the presence of wolves and English rabbits appear to fail to recognize

an enemy in a fox, so animals have been seen to go on feeding unconcernedly while a snake approached them in plain view and seized them. In captivity, when snakes are fed with live animals, the victims, rats or pigeons or rabbits, are sometimes allowed to live for days until the snake has appetite enough to eat; and during this time they appear completely indifferent to the reptile's presence as it is indifferent to them. It is not uncommon to see the doomed animal, in careless ignorance of what is in store for it, sitting on the snake to perform its toilet or sheltering contentedly against its body. At last the day comes when the snake, probably without any warning, strikes. A case is on record, however, of a rat which, having been given to a rattlesnake to be eaten, attacked it, after the fashion of a mongoose, and killed it.

In countries where rattlesnakes live one is frequently told that a "rattler" is as many years old as it has buttons on its tail; which is quite untrue. On the one hand, the rattlesnake acquires a new button each time that it changes its skin; but on the other, when the rattle becomes of unwieldy length, it is cast *en bloc* and the snake begins to build up a new one.

And nature was surely in her most relenting mood when she gave the rattlesnake its rattle. Its usefulness to the snake is a matter which has been much discussed. It may serve as a call from one snake to another, or as a decoy (and other snakes have brilliantly coloured tails seemingly for the same pur-

pose) wherewith the snake attracts the attention of its intended victim, so as to strike it when off its guard. It may also be conjectured to be of service in warning the heavy-footed grazing animals which might otherwise tread on the snake without seeing it. But, whatever its usefulness to its owner, the rattle is a boon to human beings; for one cannot live much in the open in a rattlesnake country without being aware that he must often be in danger of his life but for the warning *k-r-r-r-r*, which comes sometimes with startling suddenness from the ground under one's very feet; for whether among broken rocks or in the grey dust, coiled probably in the deeper grey shadow of sage-bush or cactus, the mottled ashen of the snake's skin becomes bafflingly inconspicuous.

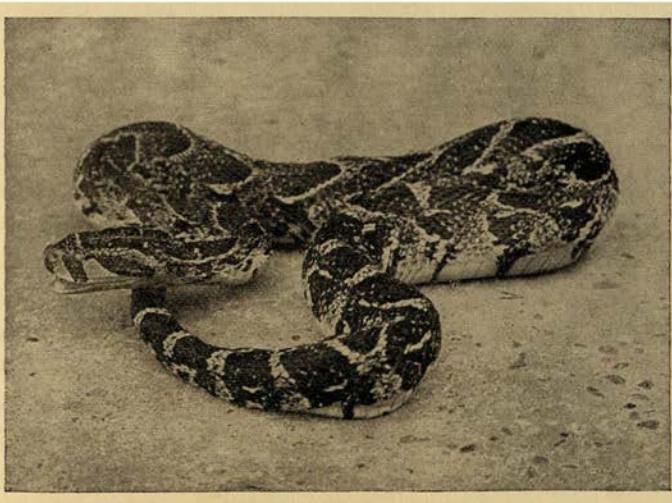
Not that all rattlesnakes are alike. In the Reptile House there are specimens of the Texan rattlesnake, the dull-hued creature which is common in the Western United States, and also of the horrid rattlesnake (*C. Horridus*) from Venezuela, where, among more warmly-coloured surroundings, the genus, with vivid yellow streaks, becomes almost as gay as any snake.

First cousins to the rattlesnakes (all being what are called "pit-vipers," from the small pits or depressions in the face between the eye and nose) among the snakes in the Reptile House are the American copperhead and the rat-tailed serpent, as it is ignominiously called upon its label, more honourably known as the *fer de lance*—small here, but sometimes growing to a

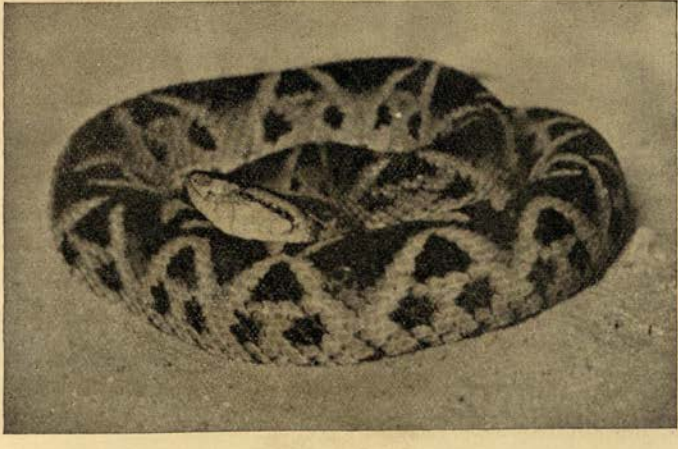
length of 6ft., and held in terror by the inhabitants of the islands in which it lives.

An old story, which no visitor to the West Indies can well escape hearing, tells how a party of sailors from a British ship essayed to scale the face of one of the Pitons, the two great peaks which rise from the sea to stand sentinel over the harbour of Soufrière in St. Lucia. Accounts differ as to the number of the sailors; some say they were three, some four, some five and even more. Having been landed they started to climb the Piton's seaward face, while their shipmates watched from on board. They had climbed, it is said, half the distance when suddenly the watchers saw one drop, not having missed his foothold or slipped, but reeling backwards from the mountain side. A little longer and another fell; and then another, till all (whatever the number may have been) had dropped back into the sea. It was the *fer de lance* which resented the intrusion on its mountain solitudes.

In captivity the *fer de lance* shows a temper which justifies its reputation, quicker than any other snake to strike and continuing to strike seemingly in mere savagery. When given living animals (which sentiment, whether wisely or unwisely, now forbids in Regent's Park) most poisonous snakes are content to strike but once, assured that though the victim still moves and runs it cannot escape, and that the end is near; but the *fer de lance* stabs and stabs again, almost worrying its prey, as if in anger that its bite should not be instantaneously fatal.



Puff-Adder



Fer de Lance. Rat-Tailed Serpent

Fortunately, except when killing their natural prey for food, most poisonous snakes are slow to strike unless they believe their own safety threatened. It is well that is so, for they are a dreadful company, with, among the true vipers, the Egyptian cerastes, the horned viper of South Africa, the puff-adder, reputed, quite wrongly, to strike only backwards (dull sluggish things as one sees them in the Gardens), and the dreaded Indian daboia; while even more grim are some of the elapine snakes (as opposed to the viperids), which count among their number the cobras, including the asp of the ancients, the South African ringhals, the Australasian death adder, the small krait, which is responsible each year for more deaths among the natives of India than the cobras themselves, and, above all, the terrible hamadryad, that "scourge of the jungle," which, deadly-poisonous, grows to a length of 14ft., lives largely in the trees, but takes to water readily, and, like the *fer de lance*, has the reputation of assuming the aggressive, even against man. There used to be a living hamadryad in the possession of the Bombay Natural History Society, which was said to be 12ft. long. It did not look it. But the incredulous were invited to run a tape over the creature to satisfy themselves: always provided that they first deposited with the Society a sum to cover their funeral expenses.

Happily the hamadryad is comparatively rare. Happily, too, though so equipped as to be able, if it chose, to prey on any living thing, it has the commend-

able taste to confine its diet almost entirely to other snakes. In this it is not peculiar, for the handsome black and white king snakes of North America (of which two fine specimens are now in the Gardens), though not poisonous themselves, are also leniently cannibal. The king snakes will eat nothing but snakes, but they do not mind their food being given to them dead, a fact which opens the door to many benevolent frauds which are perpetrated on their guileless natures. Before a dead snake is given to one of them, it is stuffed. A dead rat, a mouse, a small bird, or a lump of meat is thrust down into it, and, thus sugar coated, as it were, the king snake innocently eats things which it would not look at undisguised; and all manner of wholesome and strengthening foods are smuggled into it without its knowledge. In Regent's Park, at all events, the right of a prisoner to starve himself or herself is vigorously denied.

Not that snake's flesh has not, as food, virtues of its own. Though the prescription seems to have disappeared from the pharmacopœia of modern "beauty specialists," it was for centuries notorious that to feed on snake-meat was the way to win perpetual youth. To cure goitre, again, or any other swelling, all that was necessary was to munch a viper, from the tail up, as it might be a stick of celery; while yet another snake, if eaten, conferred the power of understanding all the tongues of birds. In this case, however, it was necessary to be particular about your snake, for it had to be one which was itself spontaneously engendered from

the commingling of the bloods of certain birds ; and it may, perhaps, have been uncommon.

> The Prince of Cambray's daily food
> Was asp and basilisk and toad.

So we learn from Hudibras. And did not Sir John Maundeville visit Latoryn, where "he that maketh a feast, be it ever so costly, unless he have serpents, it is not esteemed"? To this day many African tribes count snake-flesh among the delicacies, and Mr. John Ward says that with the Australian natives "a dish of snakes is a much-esteemed luxury."

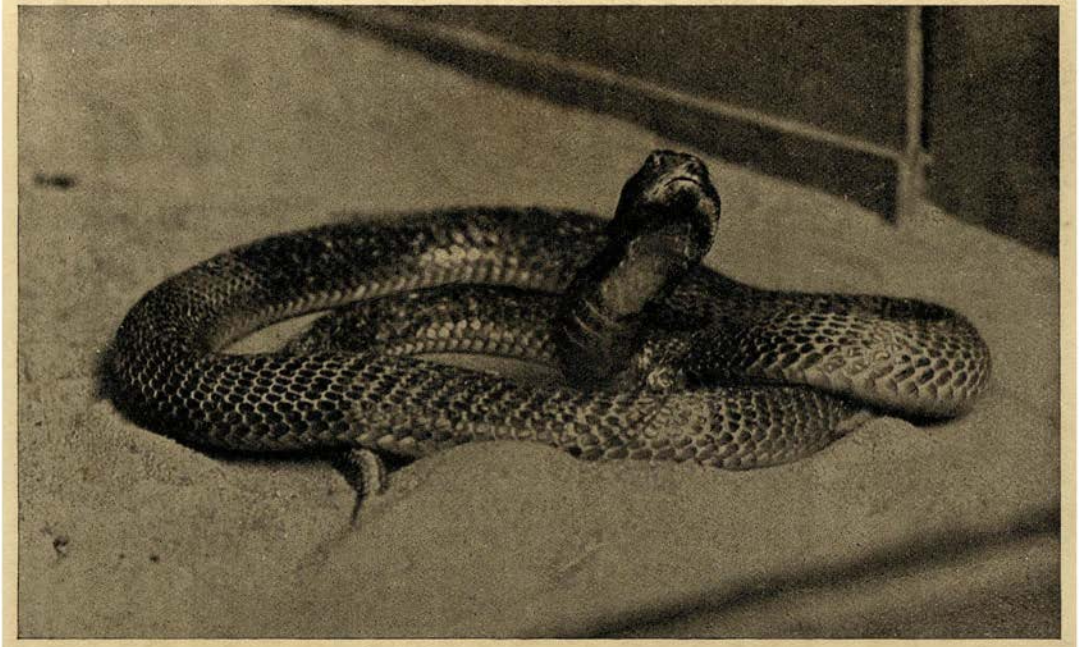
Many kinds of birds eat snakes. Pigs are particularly fond of them, as also are some deer ; but in the old days it was understood that deer only ate snakes in summer, for which reason their venison was at that time poisonous, a sagacious fiction which it was doubtless well to make widely known in times when there was abundant temptation to deer-stealing, and regulations concerning close seasons would have been treated with indifferent respect.

Tortoises are wiser than deer, for a tortoise "having eaten a serpent dispels the poison by eating the herb Origan." But the literature of snake-eating, whether for pleasure or health, is endless. There was a time when few first-class remedies for really serious maladies did not include some portion of a snake powdered. Snake broth itself was sovereign for many ills. The snake with its tail in its mouth is a symbol of eternity, and as, by casting its skin, it "renews its youth," it has since the days of Æsculapius been the chosen emblem

of the medical fraternity; while Mercury's caduceus, with its wreathed snakes, typical of peace, has been used as a badge of commerce.

In this same field, however, the snake possesses an even mightier significance, for the dollar mark ($) is but the serpent entwined about the Pillars of Hercules, as it may be seen minted on the Spanish *peso* to-day.

It was said above that the asp of the ancients was a cobra. It has often been identified with the horned cerastes, but it seems more likely that the African cobra (specimens of which may now be seen in the Reptile House) was the authentic "pretty worm." The name asp, from the Greek ἀσπις, is plausibly supposed to have come from the shield-like suggestion of the cobra's dilated hood; and it is the cobra which we see so often in Egyptian sculpture wreathed about the head-dress of divinities and kings. And if any snake is entitled to beatification, of a surety it is the cobra, for as it rears itself with outspread hood and sways rhythmically from side to side it looks indeed a thing of terror. How fatal is its bite has been shown here in Regent's Park, for a former keeper of the snakes was bitten on the face by a cobra which he handled incautiously; and he died, it is said, in 35 minutes. We think no small thing of our "parch'd adder," the common European viper, but among herpetologists it is counted as only "feebly poisonous." Cleopatra might have been a long time a-dying had she endeavoured to commit suicide with the aid of an English viper, compared with whose venom



Cobra

that of a cobra is computed to be, drop for drop, 16 times more virulent. The collected poison of 100 cobras (the thing has been done) only makes, when dried, some 4 grammes; but it would probably kill a thousand people.

Science does not yet rightly understand the primary action of a snake's poison. We know what the poison is in a chemical sense, and even how it tastes (though all the venoms are said to be tasteless, except that of cobras, which is "disagreeably bitter"), but we do not know how, primarily, it kills. Nor has it any certain antidote. "When the weesil is to fight with the serpent, she armeth herself by eating rue against the might of the serpent"; but this appears to be less efficacious for human beings than for weesils, and many another antidote, or prophylactic, celebrated in its day, seems to have lost its power.

There was a time when snakes so dreaded the ash tree that they would not even venture into "the morninge or eveninge shadow" thereof; and Pliny satisfied himself by experiment of the truth of the story that, if a snake was hedged about on one side with fire and on the other with a barrier of ash twigs, it would choose to run into the fire rather than face the dreaded vegetable. Hemlock, also, and southernwood are famous things for keeping snakes away; while dittany in particular "doth astonish them." That the mongoose is poison proof is probably as much of a fable as that it cures itself when bitten by eating some unknown herb; Rikkitikki having no other charm

against the cobra's bite than the agility which keeps him out of the way of the cobra's fangs.

It is said above that snake's poison "has no certain antidote," but within the last few years science has gone a long way towards supplying the deficiency. What is known as the permanganate of potash treatment has been much discussed and has recently (in the summer of 1910) been the subject of official notes issued by the Sanitary Commissioners with the Government of India. The treatment consists in the injection of a 10 *per cent.* solution of permanganate into the wound made by the bite. But to be efficacious it must be made *within a very few minutes*, before the poison has entered the system; and the difficulty of doing such a thing in the great majority of cases of bite is obvious. The impression seems to have got abroad, in India and other parts of the East, that the remedy can be intra-venously injected into the human body after the poison has diffused itself. It is against this that an official warning has been found necessary, such an injection being not only useless as an antidote, but in itself dangerous. It is the local injection only at the site of the poisoning, and that immediately, that has any justification or authoritative countenance.

Even more important, however, have been experiments with the injection of a serum with a view to rendering persons immune against snake poison. Such experiments have been made on animals with cobra poison with undoubted success; and it is not improbable that some method of thus gaining immunity

is at the bottom of the indifference of Indian snake catchers and others to the bites of the deadly creatures which they handle. I am indebted to Mr. J. J. Keevil, of Santos, Brazil, for an account of the methods now adopted there. He writes:—

For protection against the most poisonous Brazilian snakes, the Cascavel, Jararaca, Urutu, etc., for several years past the State of São Paulo Medical Authorities have been issuing serums, which are certain antidotes—no case of failure being on record.

The method of preparing the serums is roughly as follows:—Just under a fatal quantity of snake poison is injected into a healthy mule. Fever and other symptoms of poisoning supervene for eight days or so. When health is restored, double the previous dose is injected. Fever, etc., again occur, but for a shorter period. The process is continued until the mule is proof against an injection, one-tenth of which would have proved fatal in the first instance. The animal is then bled, the blood coagulated and the resulting serum sealed in tubes, which are marked with the name of the snake used and the date of issue. (The virtue of the serum only lasts a few months.)

"Other tubes are issued containing a mixture of serum obtained from various mules, each of whom has been injected with poison from a different species of venomous snake. This is used when it cannot be ascertained which particular variety of reptile has bitten the patient.

The rationale of the antidote is, that the blood of the mule has acquired under the process the ability to neutralize the effect of the venom, and the injection of the serum into a snake-bitten individual at once induces a similar power. It has proved efficacious even in cases when the patient was almost dead.

I understand that the discovery was originally due to the researches of Doctor Calmette, of Lille, whose methods were afterwards perfected by Doctor Vital Brazil, of São Paulo.

In the handling of snakes both natives of India, in spite of all the chicanery which is mixed up with snake-charming, and, even more conspicuously, perhaps, the Moqui Indians of North America, acquire a dexterity and apparent immunity from danger which

(with an occasional exception) seem unattainable by white men; and perplexing tales are told of the magical efficacy of snake-stones, as used by Indian snake-catchers in the cure of the bites of both cobra and krait, on authority so distinguished that science, with all its superciliousness, cannot altogether disregard them.

But as a general rule it may be laid down that, for man or mongoose, the only certain safety lies in keeping outside the range of being bitten. Fortunately a snake, "more subtil than any beast of the field," rarely goes out of its way to attack. Nor is it always undiscriminating in its choice of victims; for in Sicily (and again we are indebted to Sir John Maundeville) there is a shrewd breed of snakes which laudably declines to bite any but bastards.

XII.—Of Eagles.

A story familiar to most of us in our youth told how an eagle once swooped down upon a baby monkey; but before it could rise with its prey the older monkeys, parents and grand-parents, uncles and aunts, all the full-grown members of the tribe, leaped upon the bird, and, holding it down, proceeded seriously to pluck it. They did their work conscientiously, leaving the eagle wing-feathers enough to fly with, but otherwise an entirely naked bird. What the story-books never told us, however, was that the eagle, when released, fled to hide its nakedness in the woods of the far-off Philippines, since when it has had its fill of vengeance; for it has lived on nothing but monkeys!

The bird is in the Zoological Gardens now, Pithecophaga, the Monkey-Eating Eagle, the first of its kind that has ever been in captivity*; and it is a formidable-looking thing, as it has to be, for even small monkeys cannot be easy prey. "I would sooner collect live red devils than liddle monkeys," said Hans Breitman, it will be remembered, the "big-beamed German" who told Mr. Rudyard Kipling the terrible tale of "Bertran and Bimi."

* It has, alas! since died.

It may be that some dim instinct of family sympathy with the monkeys makes the bird look to our eyes even more forbidding than it is, with its un-eagle-like shortness of wing, adapted to quick movement among tree-branches, the ragged head-dress of long, loose feathers on its crown, and, above all, its beak, something more hooked than other eagles find necessary, and so keen that, when looked at from in front, it is seen to be hardly thicker than a knife-blade. Eagles in general kill by the grip of their huge talons. But it is impossible not to believe that the monkey-eating eagle uses also that pitiless beak for cutting and tearing the life out of its victims. And for what purpose does the bird wear those untidy feathers on its head? As some snakes have tails especially adapted to attract the attention of their victims so that they may be struck when off their guard, is it not a reasonable conjecture that these feathers serve a similar purpose, and that the monkey when seized would, following its instinct, grip first for the waving plumes on the stooped head which stabbed at its vital parts?

The existence of the monkey-eating eagle has only been known to science for a few years. We had to wait until the American occupation of the Philippines, in fact, for the sequel to our nursery tale; so, whether by reason of its novelty or of the almost diabolical adaptation of its structure to its horrid way of life, the Pithecophaga is altogether the most interesting of the birds of prey now in Regent's Park.

The present writer was standing one day, the only

Monkey-Eating Eagle

visitor, in the antelope house (in which the bird was kept) looking at the monkey-eating eagle, when there came into the house a man accompanied by a boy of, perhaps, four years of age. While the man loitered on, the child, not tall enough to see over the wall which forms the lower part of the cage-fronts below the bars, stopped precisely opposite, as it happened, to Pithecophaga, and lifting one foot on the water-pipes which run along by the ground, reached up with one hand to grasp the bottom of the bars and so raise himself to a level whence he could peer in. In this position—one foot raised, one arm reached upwards to its utmost length—the boy looked extraordinarily like a monkey. It was precisely the attitude of the familiar toy monkey on a stick or string. In an instant the eagle had flung itself against the front of its cage, where it clung with outspread wings and eyes fixed on the climbing thing before it. The incident may not have been as significant as it looked; but there was no mistaking the earnest desire of the eagle to reach the boy.

But one does not like to think of the "thunder-grasping eagle," the "bird of Cæsar and of Jove," eating monkeys. It has flown at nobler game—

> . . . . . when erst on golden wings she led
> The Roman legions o'er the conquered globe,
> Mankind her quarry.

In real life eagles, it is perhaps unnecessary to say, do not attack mankind. It may be that sometimes a baby, left exposed, has been pounced upon and carried off; and instances have been recorded where a man

crouching upon the hill-side has been stooped at by an eagle, which doubtless mistook him for some four-footed animal, as, in each case, it sheered off as soon as the intended quarry stood upright. Swiss guides, however, are often undoubtedly afraid of the birds, and they tell you that, if you are attacked, the plan is not to stand upright, but to throw yourself on your back and kick vigorously—a proceeding which, one may well believe, would be disconcerting to the hungriest of eagles.

A paragraph in the London newspapers early in last year told how an eagle had attacked the driver of the Côte d'Azur express between Chalon-sur-Saône and Fontaines. The bird, "which was two metres across the wings, flew into the cab of the engine and was only overcome after a severe struggle." But it is not to be thought of that an eagle would deliberately fly into the cab of a moving train with intent to carry off a man. Perhaps the engine-driver wore a fur cap, and the bird expected to find nothing there more serious than a rabbit. More probably it flew too close to the train and, partly drawn by the air current and partly in mere bewilderment, fell into the cab by accident.

It may be that the only adult who was ever killed by an eagle was Æschylus, on whose bald head, under the impression that it was a stone, an eagle, we are told, dropped a tortoise. And, supposing the incident to be true, even that bird was more probably a lämmergeier, or bearded vulture, than an eagle, the former

creature being equally likely to have been in the neighbourhood, and notoriously given (being the true ossifrage, or bone-breaker, the *quebranta huesos* of the Spaniards) to carrying aloft and dropping on the rocks not tortoises only but the bigger bones of large animals, in order that, when the bones are shattered by the fall, the bird can get at the marrow. Colonel Willoughby Verner has told how he saw a bearded vulture thus carry aloft the hind leg of a mule, and drop it from a height of some 1,500ft. or 2,000ft. to a terrace of limestone rock, whereon it splintered. The same authority, however, than whom no man has had a larger experience of visiting the nests of the great birds of prey, emphatically discredits the story that eagle or vulture ever attacks human beings who plunder its eyrie.

Once a griffon vulture showed a disposition to refuse to leave her nest on his approach; and once another griffon, lying wounded on the ground, resisted capture savagely. But, "I have often been asked," he says, "whether these great birds (eagles and vultures) ever show fight when their nest and young are molested. As a matter of fact they never do . . . they are far too much alarmed at the presence of man to attempt to attack him." Which is well for the man, because, balanced precariously, as he must often be who goes to rob the nest of eagle or vulture in its cliffs, he would be at the mercy of the bird, which, had it but the intelligence to know and courage to act, could certainly send him to his death, just as eagles,

seeing a chamois at the edge of a precipice, are said to swoop upon it, and, striking it with their wing, to hurl it to be dashed to pieces on the rocks below.

Mr. Thomas Ward tells the same tale of the innocuousness to human intruders of the wedge-tailed eagle of Australia; and Mr. A. O. Hume says that the imperial eagles in India never attempt to defend their nests. "I have driven the female off hard-set eggs, and plundered the nest before the eyes of the pair, without either of them flapping a pinion to defend what even a little shrike will swoop at once to save."

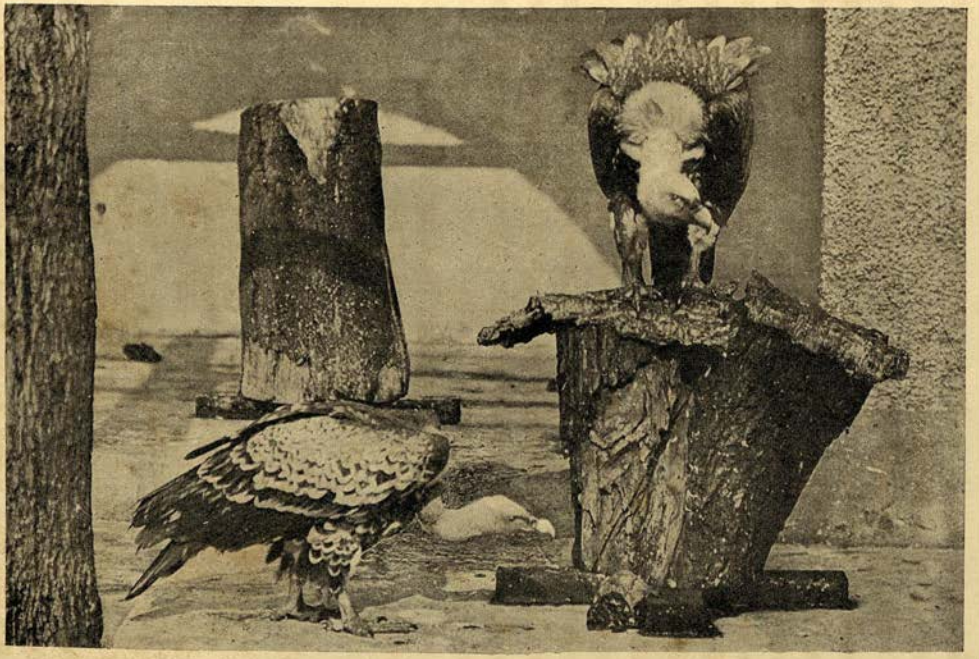
But, however much the eagle may be in awe of man, there seems to have been no age in which man has not accepted the "playmate of the storm" as the symbol of kingship or power. Its sovereignty among the birds—

> Sailing with supreme dominion
> Through the azure deeps of air—

is more indisputable than that of the lion among beasts:—

> When from the summit of some giddiest crag
> They plunge into the immeasurable air,
> And dare all things, and never turn aside,
> Nor shrink, nor stop, nor close their orbs until
> They rest upon the chariot of the sun.

So masterful is the eagle, so much the lord of other fowls, that even one of its feathers, it is said, when placed with those of other birds, devours them. We all know the trick by which the golden crested wren out-soared the eagle, sitting on its back while the great



Griffon Vultures

bird beat its way up into the sky, until, at the last, when the eagle could mount no more, the little impostor leaped off and fluttered just a few feet higher. It wears its golden crown in symbol of its kingship to-day ; but the eagle can afford not to be jealous, for it has honour enough.

Nation after nation—Assyria, Persia, Rome, France, Germany, Russia, Austria, Italy, Poland and the United States—has used it either as the Royal crest or as its military standard. No great man but has been an eagle to his eulogists, and gleaning from the poets at random, we find Napoleon, Pindar, Otho, Madoc, Duguesclin, Lochiel, Wolsey, Prince Hubert, the Duke of York, Bacon, Herminius, Coriolanus, and many another equipped with eagle qualities. The proud lift of the hair from the brow of the Capitoline Jove is said to have been studied from the forehead of a lion. Certainly more than one sculptor of the head of a Roman Emperor, and more than one painter of imaginary portraits of Napoleon, have borrowed from the eagle the strait line of the eyebrow, just cutting the full, round, unlidded eye, which gives the bird even in captivity its wild majesty of appearance. The same association, however partially defined, was seemingly in Browning's mind when he wrote :—

> The Chief's eye flashed ; but presently
> Softened itself, as sheathes
> A film the mother eagle's eye,
> When her bruised eaglet breathes.

Every emotion, every attribute or tragic circumstance

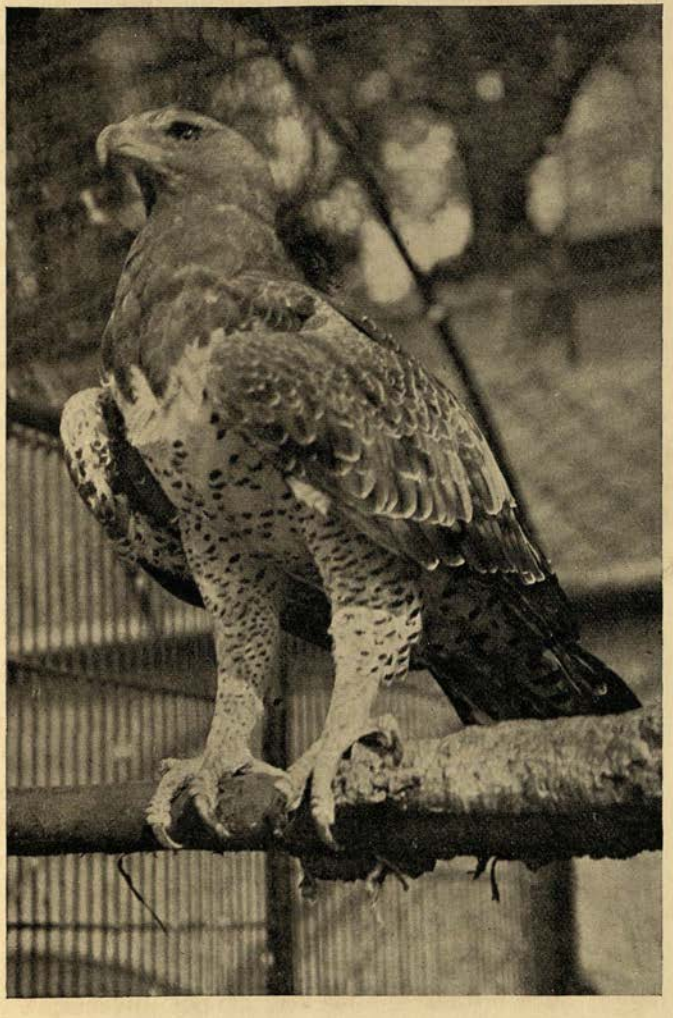
of life raised to its highest power is compared in verse or by the essayists to the royal bird ; so fame, ambition, science, reason, danger, pride, hatred are "eagle-eyed" or "eagle taloned." No mountain is so high as those which are "eagle-baffling." Even the skies are "eagle-skies." Greatness itself becomes "eagle-greatness," success is "eagle-gripped," and the true Victory has eagle's wings. What dignity then is lacking to the bird which "builds among the stars," which soars "swimming in the eye of noon" and fronts the sun itself on equal terms ?

It was Byron, apparently, who first declared that—

The prisoned eagle will not pair,

and many pretty things have been written of the proud spirit of the Bird of Freedom which refuses to beget a family that must be condemned to servitude. Unhappily it is not entirely true, though all the large birds of prey breed in captivity rarely. For one thing it is not always easy to be sure that any two eagles are a pair, for the sexes are generally difficult to distinguish.

Many years ago there used to be a Zoological Garden in Cheltenham ("Jessop's Gardens"), the pride of which was a golden eagle reputed to be of some incredible age—though eagles are notoriously long-lived. The bird was known as Prince, and had been in solitary captivity for some considerable number of years, when, belying its name (even as the crocodile Dick), it one day astonished its owners by laying an egg. Such instances, however, are not infrequent.



Martial Hawk Eagle

In their wild state all eagles seemingly pair for life and live, the pair together, in a proud isolation from their kind. In the breeding season they are jealous of the presence of other birds near their eyries, commonly returning to the same nesting site in successive years or perhaps more frequently having two or three nesting sites which they use in irregular rotation; so that those who know a neighbourhood well, and the haunts of the eagles in it, are sure, when a pair fails to turn up at its eyrie of the preceding season, that the nest will be found in one or other of the "alternative sites."

The belief that the eagle, the "child of light," can look at the sun without winking and "drink the noon-tide flames" is an old and universal one. Much of their strength of vision, it seems, the birds owe to eating lettuces, but the parent also sees to it that no young eaglet which is likely to need tinted spectacles is suffered to grow up.

Before that her little ones bee feathered she will beat and strike them with her wings, and thereby force them to look full against the sunne beames. Now if she see any one of them to winke or their eies to water at the raies of the sunne she turnes it with the heade foremost out of the nest as a bastard and none of hers, but bringeth up and cherisheth that whose eie will abide the light of the sunne as she looketh directly upon him.

In real life it does not seem that eaglets are more capable of looking at the sun than any other bird of the daylight, the belief doubtless having originated from the immense height to which they soar ("the dim-seen eagles") and from the splendour of the eye itself.

Undoubtedly eagles are keen-sighted, even if they cannot, as has been averred, see a distance of 400 parasangs, or, roughly, 1,400 miles.

When at a height where they themselves are barely visible to the human eye against the light back-ground of the sky, they appear to be able to discern things smaller than themselves against the much less favourable background of the earth; but often also probably, like vultures, they do not see things which they are believed to see. The rapidity with which vultures will collect to a carcase from a sky where no vultures were visible can be witnessed any day in countries where the birds abound, and therefore they have been credited with an impossible range of vision. What happens is that the vultures are circling aloft each on its chosen beat, so that all the earth for a wide area is under observation. When a beast dies or food is exposed the vulture immediately overhead sees it and drops. Its neighbours on either side know what that drop means, and they follow, the fact being noted again by other birds still further off; and so in an ever-widening circle vultures come sweeping into a common centre, not because any but the first, perhaps, knows why it is coming, but all assured that there is some good reason for the action of the others. Just so do human beings in the street run whither others are running, pleasantly uncertain what they will see when they get there.

Eagles, of course, are not, like vultures, normally carrion feeders; though no eagle apparently disdains

Condor

carrion when it comes in its way. "Wheresoever the carcase is, there will the eagles be gathered together"; but the word should doubtless be translated "vultures." The Rev. J. G. Wood, indeed, has pointed out that wherever the word "eagle" occurs in the Scriptures it should probably read "vulture"; in most cases "osprey" should be rendered "eagle," and "vulture" should be "kite." Not only, however, is the identification of ancient species always difficult, but the line between eagles and vultures is in nature but indistinctly drawn—naturalists being still divided as to whether the lämmergeier is more of the one or the other. In India, indeed, the lämmergeier is commonly called the golden eagle. In the Alps eagles are often spoken of as lämmergeier. Seeing them in their cages at the Gardens it is difficult to say which is the most imperial-looking bird, our own golden eagle, the Chilian sea eagle, or the martial hawk-eagle. All are splendid (even down to the little white-breasted sea-eagle from Australia), and with their majestic carriage, their immense spread of wings and huge talons, it is hard to realize that no one of them weighs much above 10lb.

A golden eagle with a span of wing of something over 6ft. weighs less than many a hare that it kills. As may be seen here in Regent's Park several of the vultures—notably the condor (presumably the original of the roc), the griffon, and cinereous vultures—are perceptibly bigger birds than any eagle, though far from being as large as is often claimed. One hears of griffons weighing 40lb. and with a spread of wings of

13ft., and there are traditions of condors even bigger; but there appears to be no authenticated instance of either griffon or condor reaching within a pound of half the weight, while a spread of 9ft. seems to be equally exceptional in both.

Neither eagle nor vulture seemingly ever attacks man, as we have seen, except by mistake, and which of the two is in nature master of the other is a matter on which poets and naturalists alike disagree. Montgomery tells how a "cloud" of vultures attacked two eagles on their nest and killed them and their young; but Eliza Cook declares that

> The vulture may gaze, but he will not dare
> To ruffle my feathers.

And again:—

> Though the earth may have creatures strong and fair,
> Though the fearless and brave fill the woods and the wave,
> None can shadow the eagle—the King of the Air.

The Rev. J. G. Wood says that the golden eagle always gives way before "the lordly griffon," and he quotes a passage from Mr. Tristram, who tells how eagles wait until the griffons have finished a meal, hastening to it when the latter leave, and as hurriedly getting out of the way again if the larger bird returns. Colonel Verner, on the other hand, speaks as a matter of course of the golden eagle lording it over the griffons, harrying and chasing them, not allowing them to build in the neighbourhood of its own breeding haunts.

We need not hesitate to confess that our sympathy,

as that of the gods, is with the eagles. It is not thinkable that Jove could have taken the fleshly-headed, foul-feeding vulture for his messenger and playmate. Perhaps it was as being the mouthpiece of Olympus that the eagle needed so little voice of its own, for the "eagle's scream," the "wild eagle's solitary cry," has been much over-rated. The kingliest of the family can do no better than yelp, and most of them croak or whimper, or whistle or mew. But the eagle has no need of a lion's voice to add to its terrors; while for conversation with its kind in the thin air of the wide stillnesses in which it lives sounds carry far, and, weak as the voice is, it has at least given us one of the sweetest lines in English poetry in Wordsworth's—

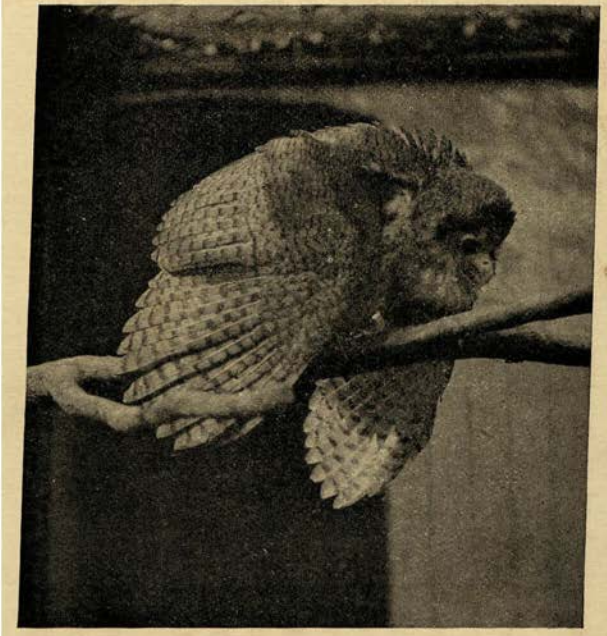
Faint sound of eagles melting into blue.

XIII.—Of Owls.

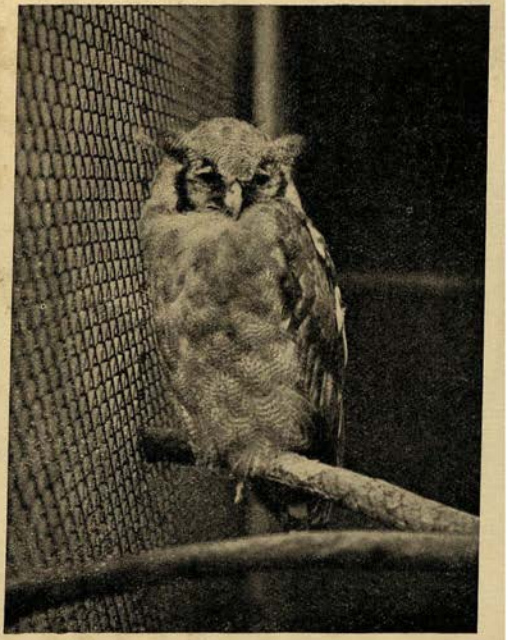
As one sees them in their cages in the Zoological Gardens, the larger owls are persons of such extraordinary solemnity that one almost wonders whether one has not met them at the Club. Properly disposed in an armchair the eagle owl, for instance, might, to the casual glance, pass well enough for an elderly member waiting for the *Athenæum*; and it is no wonder that in the myths of so many countries the owl has been the bird of wisdom.

But even the most formidable of them is best in repose, for when it wakes up and shows any emotion—at least in the daylight—almost any owl becomes frankly absurd. Nor has any of them a voice commensurate with the dignity of its appearance. The splendid-looking snowy owl only "whee-eeps" rather plaintively, and even the eagle owl says "whang" through its nose. More than one sportsman, indeed, in wild countries (especially in parts of Africa) has testified to the amazing noises with which owls of various species see fit to enliven the night.

In the British Isles, unhappily, we have none of the nobler-looking owls in a wild state, unless, indeed, the luminous owls which made such a stir by their appearance in Norfolk two years ago can be classed as



Pel's Owl



Milky Eagle Owl

such. Whether these birds acquired their luminosity by living in, perhaps, a rotten tree phosphorescent with fungoid matter, or whether they were dieting on rats killed with phosphorus, remains a mystery; but their appearance, as they flew about "like carriage lamps," or sat on trees emitting sufficient illumination to make the surrounding twigs clearly visible in the darkness, seems to be supported by too many witnesses for them to be easily dismissed as a hallucination or a hoax.

Luminous owls presumably look best at night; otherwise one is tempted off-hand to regret that all our owls are not creatures of the daylight, for they are the most engaging and delightful of birds, with which it would be pleasant to become more intimately acquainted. But, had it not been for the protection of the darkness, it is certain that they would long ago have followed, if they had not preceded, the kite and the buzzard down the path to extinction. It is better to have our owls, even if we must remain on more or less distant terms with them, than to know them only as a memory, like the great bustard or as the bittern is to most of us.

It is in the late autumn and winter, when the majority of the birds of the sunlight are silent, that the owls are most in evidence. From October to January, "then—then is the joy of the horned owl"; but Barry Cornwall should have known that the English owl, which "hoots out her welcome shrill when the moon shines and dogs do howl," is not "horned." Of the two kinds of horned, or eared, owls,

commonly found in Britain, neither can fairly be called clamorous; the long-eared owl in particular being a secretive thing, living for the most part in the recesses of fir woods and, beyond the snapping of its beak, using in normal circumstances no note but the muffled "Hook! hook!" which is so like the distant barking of a dog. When its nest is invaded in the daytime, it is true that the male bird sometimes surprises the intruder with the luxuriance of its vocabulary, as it tumbles about in the branches of adjoining trees, protesting against the outrage on its home in a confusion of objurgations, among which a shrill "Chik-chik-chik," as of a kestrel, predominates. But it appears to acquire this gift of tongues only under stress of violent emotion.

So with the short-eared owl—familiar to sportsmen and game-keepers as the "woodcock owl"—which breeds only in scattered localities in the British Isles and comes to us chiefly (with the woodcock) as a winter visitor. So silent is it that, in places where it habitually breeds, keepers and others are often in doubt until well on in the summer whether the birds are in their accustomed haunt in any given year or not. Unlike our other owls, it builds upon the ground, lying close during the day among the reeds or rank herbage of the fens and moorlands which it loves, coming out soon after sunset to forage with a noiselessness and stealth remarkable even in an owl. Not until the young have left the nest does it grow less cautious. Then, from the beginning of July onwards, if a human

being invades its solitudes after nightfall, he will hear the old birds circling in the darkness overhead, reiterating with monotonous persistence the long wailing plover-like call, "Tee-ee-oo! Tee-ee-oo!" which, except for an occasional "Kek-kek," like a moorhen, seems to be their only habitual note.

Neither of these, however, is the familiar bird which frequents the neighbourhood of human habitations—"the twilight-loving, solitary owl That skims the meadow"—"The bird who ceased, with fading light, to thread Silent the hedge or streaming rivulet's bed." Nor of the commoner of the two common owls do we really hear much, for the barn-owl is sparing of its voice, and it is chiefly in the earlier hours of the night that one catches the thin, wheezing "Scritch," which sounds less like a voluntary note than as if some one squeezed the music out of the bird as one squeezes water from a sponge.

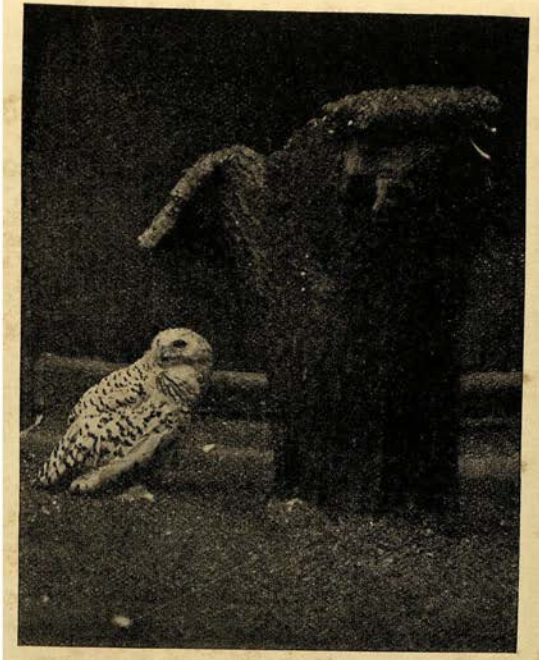
Best friend to man of all the feathered tribe, the barn-owl has been repaid only with a plenitude of abuse. Keats called it the "gloom-bird." Akenside dubbed its note an "accursed song." Drayton gave it the epithet "deadlie." To Chatterton it was the "curst screech-owl," and to Blair "night's foul bird," and its song an "ungracious sound." But, if the owl has any of the finer feeling of which we suspect it, it is possible that all this cudgelling with hard names does not hurt so much as Butler's one contemptuous epithet, "goggling." Scott lumped it (with bats!) among the "birds of evil omen," while

both Spenser and Shakespeare were conspicuously impolite to the poor thing. The former especially finds difficulty in being rude enough, returning to the subject as to a cherished grudge, again and yet again. The "ghastlie owle" was a favourite phrase with him, and he called it "death's dreadfull messengere." It was also "ill-faste" and its note "balefull" and "drerie"; it was the companion indifferently of "foule goblins," "infernall hagges," and "hellish harpyes," and its nest a "balefull bowre" and a "grievous ynne." Poor, friendly, comfortable, philanthropic fowl!

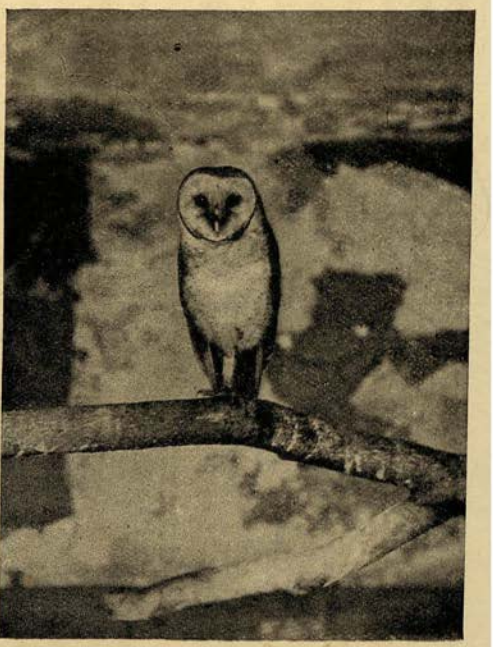
Shakespeare, while not pursuing it with the unremitting animosity of the author of the "Faerie Queene," was none the less sufficiently discourteous to the barn-owl when he happened to think of it. "The staring owl" was a harmless phrase, nor is there any particular vindictiveness in :—

> The scritch-owl, scritching loud,
> Puts the wretch that lies in woe
> In remembrance of a shroud.

But when he called it a "shrieking harbinger" and "foul precursor of the fiend" he became unworthily personal, whatever grounds Hamlet may have had for his seemingly gratuitous assertion that the bird was originally no better than a baker's daughter. An older gossip, it is just to remember, averred her to be a monarch's daughter, two statements which are perhaps reconcilable on the supposition that the monarch was the King of Hearts.



Snowy Owl



Barn Owl

Nor does the brown owl fare much better at the lips of genius than its paler cousin. Shelley failed to specify which kind of owl he meant when he spoke of "gibbering night-birds," or which it was that did so unusual a thing as to "drop poison on" him as he passed. Possibly he did not know that there was more than one species of owl; they were all "sad Aziola." But Grahame's "wailing owl" which "augments the horrors of the night," Crabbe's bird which "mopes" to the accompaniment of the passing-bell and thereby "magnifies the sound," and Baillie's with its "loud ill-omened hoot" can be no other than the brown owl. And it is the brown owl with which most people are familiar—the owl of "tu-whit" and "tu-whoo"; though the two notes, characteristic as they are, represent but a small proportion of the bird's *répertoire*.

If we except the chokings, gurglings, and sneezings of the mating cuckoo, perhaps no stranger assortment of sounds proceeds from the throat of any bird than that which the brown owl produces in the agitation created by the settlement of its domestic affairs in the autumn months. Precisely what the birds are doing which necessitates so much argument is uncertain; and it is when listening to them that one is most often tempted to wish that they would conduct their businesses in daylight. In the late summer, when the uproar begins, it is probably the old birds encouraging their young ones to fly; but the clamour of the later part of the year is undoubtedly less friendly, being not impossibly caused by the parents' driving the now

well-grown children out into the world to make homes for themselves where they will have hunting area enough to keep them from poaching on the family preserves.

Whatever the passions may be which prompt to such polyglot utterance, they come near to defeating their own ends, rendering the birds almost inarticulate, so that an altercation, which begins with emphatic and clear-cut "tu-whit"-ings, soon loses itself in a bewilderment of hoots, suggestive of the efforts of a boy learning to whistle through his fingers, until, seemingly, all parties concerned get feathers down their throats and the colloquy breaks up in fizzings and splutterings and frank incoherence. It is no wonder that in the old pharmacopœias "owl broth" was held to be a specific for whooping-cough.

Sometimes the poets give us glimpses of first-hand observation, as Coleridge in his

> 'Tis the middle of night by the castle clock;
> The owl hath wakened the crowing cock.

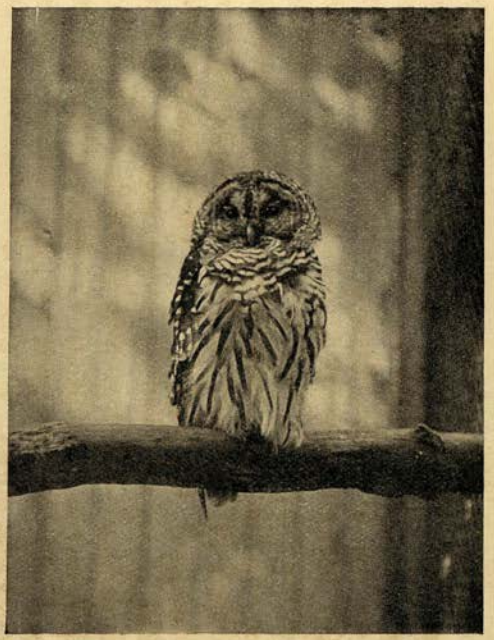
This is an incident which may occur almost nightly in a neighbourhood where both owls and farmyards abound. To the human ear at a little distance the long-drawn hoot of the brown owl is often indistinguishable from a cock-crow, and the birds are deceived by the resemblance. Often one may hear the call of an owl answered through the silence by a solitary cock. The owl replies; then the cock, and then the owl again. By this time the antiphony will have aroused another cock whose voice augments the duet into a

trio, which soon becomes a quartette and then a quintette as one rooster after another is awakened, until the whole barnyard choir of the locality is in full song. Amid the babel the owl becomes silent, and presently the uproar dies away till everything is still. But it is not long, in all probability, before the owl begins again, calling presumably to some distant rival whose voice is beyond the reach of our ears, and once more the farmyards will be aroused and the whole performance repeated. This may go on at intervals of half-an-hour, through a large part of the night; and, however disturbing it may be to us, we should consider that it is probably also extremely annoying to the owl to have his knightly exchange of challenges with the wicked earl who lords it over the further wood thus interrupted and smothered by the clamour of the groundlings.

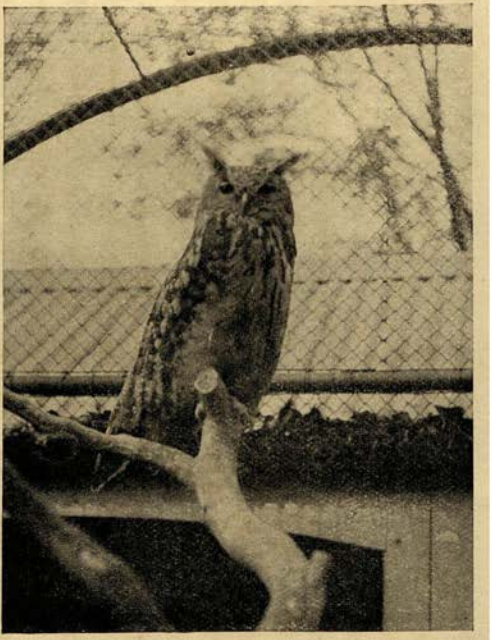
Mr. Bosworth Smith has told the story of the German Professor who, having shot an owl, declared it to be a "schnipe mit einem face puschcats"; and another writer has spoken of owls as "cats on wings." The physiognomy, indeed, of all the owls is charmingly un-bird-like. But to see an owl most ludicrous it is necessary to see it wet; for it is a dreadful impostor in the matter of size, being but a poor ha'penny-worth of solid owl to a quite intolerable deal of fluff.

Some years ago the present writer shared with other members of his family in the possession of a pair of brown owls, whose cage abutted on the stable yard. One of the owls, being brought out into the day, when

the hot sun beat white upon the paving of the yard, flew helplessly to such perch as it could reach ; and it chanced to settle immediately under the tap of a rain-water butt which leaked. The leak was inconsiderable. Perhaps a single drop fell from the tap in every two or three seconds, and to the first few drops the owl paid no attention. Then it began to shake its head. Evidently it was raining ; and the owl knew all about rain. It knew that when rain fell in one spot it also fell elsewhere, on the just no less than on the unjust, and there was nothing to be gained by shifting, unless to such safe shelter as nowhere offered itself in the dazzling sun-baked yard. A move of three inches in any direction would have kept it dry ; but owls are ill-adapted to walking on the level, and undertake it with reluctance. Doubtless, too, it considered that moving would be futile, so it sat where it was and submitted to be rained upon ; and gradually it grew wetter and more wet till "for all its feathers" it was soaked. The plumage of the head and neck, much of which normally stands out at right angles from the skin, clung close to it, and to our astonished eyes the true dimensions of the bird were revealed. In place of the pompous-looking, comfortable fowl of our daily acquaintance was a thing less bird than gargoyle—a new and obviously mythical creature, thin, ungainly-footed, with an extraordinarily long neck terminating in a head which had become resolved into a beak and two huge eyes blinking at us with incomparable solemnity.



Barred Owl



Great Eagle Owl

If you hold an owl in your hand you comprehend how small a bird it is, and begin to understand the buoyancy and silence of its flight; but you must see it with its feathers soaked to its sides (or plucked perhaps) to grasp the quite unimaginable absurdity of its figure.

Happily, the true character of owls is coming to be better understood. There are still some who regard them* with awe as "death-boding," and there is testimony which cannot be gainsaid to prove that occasionally individual owls, both brown and long-eared, have been known to kill a young partridge or young pheasant. But these are beyond doubt exceptional cases—aberrant individuals like sheep-killing dogs—while the proof is overwhelming that the generality of owls confer incalculable benefit on man by the destruction of rats and mice and voles, as well as of many species of insects which are "noxious" from the human point of view. The pole-trap is now forbidden by law, and the number of preservers of game who allow their keepers to kill owls grows fortunately smaller year by year; and there is surely no sight more damning to the intelligence of the owner of an estate and of his keepers than that of owls hanging among the weasels, stoats, and cats in a "keeper's larder." All the British species of owl are, in the writer's opinion, now increasing in numbers, the brown owl conspicuously fast. The short-eared owl seems to breed with us more commonly than a few years ago, and the long-eared, in certain neighbourhoods where it

is unmolested, has unquestionably spread to many woods and spinneys which until recently were untenanted by its kind. Finally the little owl (a charming bird, with a ludicrous trick of bobbing its head, and a pleasant plaintive note), having been turned down in different parts of the United Kingdom, has made good its foothold and is enlarging its area rapidly.

This is as it should be. It is true that on some birds, as rooks and starlings, when they increase in numbers, over-crowding appears to have a demoralising effect, driving them to illegitimate ways of procuring a livelihood and converting them from friends of man into his enemies. But the natural jealousy of most species of owl acts as a deterrent of over-crowding, compelling superfluous birds to seek new pastures further afield—even, if need be, overseas. If the increase now noticeable in many localities continues uninterruptedly, it will still be a long time before we can have too many owls.

XIV.—Of Ostriches.

Though no creature has better title to our regard, none has been the victim of more injustice than the ostrich. Not only is it manifestly the largest of existing birds (the big male from Somaliland now in Regent's Park, when drawn to its full height, towers a good two feet above the head of six-foot man), but it is much the most formidable as a fighter. Many of the cranes and storks can inflict serious wounds with a thrust of their spear-like bills. Some of the larger birds of prey are awkward things for a man to tackle with his bare hands; but the ostrich is the only bird which is credited with having attacked and killed men in fair fight.

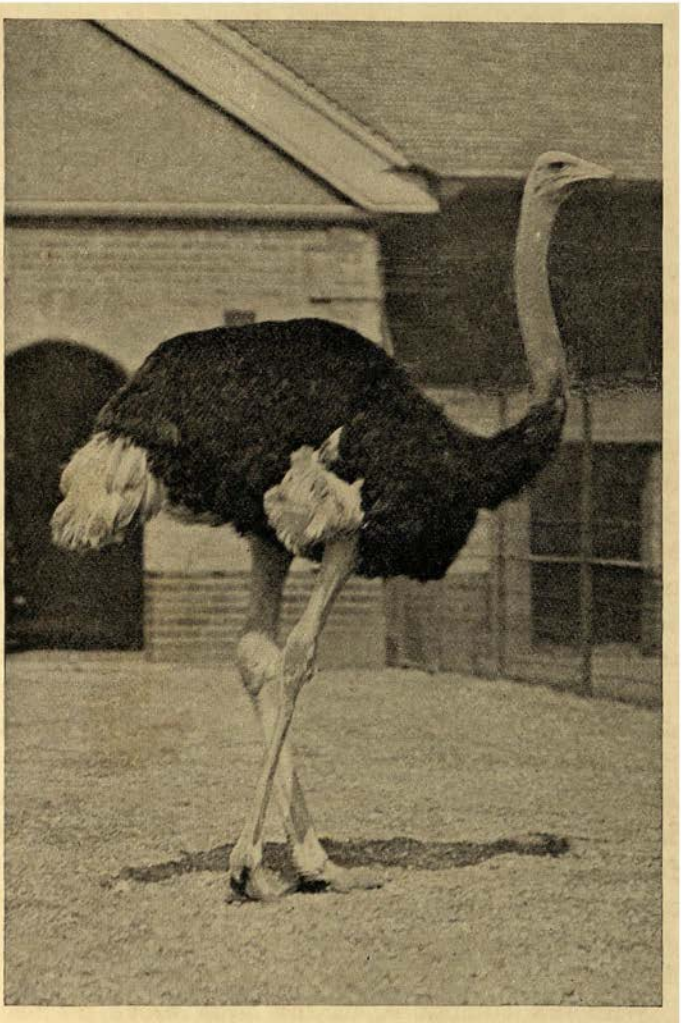
The weapon of the ostrich is its heavy foot, which is furnished with only two toes, one of which is barely one-half the length of the other, the longer one being armed with a nail almost worthy to be called a hoof. With its length of limb and great thigh muscles the bird can strike a blow with that cruel claw which has been known to rip open a horse's side; and he is a rash man who goes, defenceless and alone, to take the eggs from the nest of ostriches breeding in captivity when the male bird stands guard.

"What time she lifteth up herself on high, she

scorneth the horse and his rider," says the writer of the Book of Job ; and it is literally true. "It takes," to quote a later writer, "a good horse and a good man to make one Arab of the desert, and it takes three Arabs of the desert to hunt one ostrich—and then they do not kill it as a rule." Travelling at full speed, the bird covers 24ft. at each prodigious stride, and does its 25 or 26 miles an hour with comfort ; so that the only chance of running it down is by hunting it with relays of fresh horsemen who take up the chase as the bird begins to tire.

But the ostrich has other than mere physical claims on our respect. If it chose it could give itself airs on the score of its antiquity of lineage, as being the oldest landed aristocrat among the birds. When ostriches first began to live in deserts we do not know, but the Mohamedan story goes that when Allah passed all the creatures in review before him to assign to each its name and way of life, the ostrich, looking at the birds and seeing that they could fly, said to itself, "Obviously I am not a bird." But when the beasts went by and all were four-footed, again it meditated, saying, "Plainly I am not a beast." And the bat found itself in the same dilemma. So Allah, when the work was finished, seeing these two still waiting by themselves, dismissed them, telling each that, as it had chosen to cut itself off from companionship, companionless it should live. The bat he sent to fly alone by night ; the ostrich to the solitariness of the desert.

With few exceptions, all the birds which fly have



Ostrich

the breast-bone divided by a sharp keel-like ridge, which, when we carve a fowl or pheasant, seems to be chiefly devised for our annoyance. It is unfortunate that we do not have to carve ostriches, for they and their allied genera are destitute of the central ridge, the breast being keel-less ("ratite" or raft like), and the Ratitæ, as they are called, are generally accepted by naturalists as the most primitive family of birds, having more in common not only with the extinct moa and æpyornis, which indeed were first cousins, but also with the long-vanished archæopteryx, the strange creature with bird's wings, but teeth to its beak and a lizard's tail, which formed the connecting link between the birds and saurians.

Finally, the voice of the ostrich has often been mistaken for that of the lion, and its feathers make the ostrich an item of some importance in the economy of the Empire. A creature the export value of whose product reaches approximately two millions sterling a year has earned some consideration at our hands; and there seems to have been no time in the history of man when ostrich plumes were not used, from the earliest Egyptian kings to our own Prince of Wales, as the insignia of high rank. As we look back down the procession of the ages we see as far as the eye can reach the beautiful plumes nodding over the heads of queens and emperors, princes and potentates of all degrees, knights and ladies of the Court. So

> . . . a song for the bird whose feathers wave
> O'er the christening font and the new-made grave!

The beauty of an ostrich feather is largely owing to the fact that in the eye of science it is what is known as degenerate. In the feathers of ordinary birds which are used for flight the barbs (the individual plumes or filaments on either side of the quill) are furnished with minute hooks, of which Dr. Gadow has reckoned some 800,000 on 15in. of crane's feather. By these one barb fastens itself to the edge of the next, so forming a continuous web, in which, as we all know, it takes some appreciable force to make a fissure. In the ostrich the feathers, having become idle, have lost the hooks, so that each barb falls loose and unsupported by its neighbours. Having ceased to overlap so as to form an air-resisting surface for purposes of flight, moreover, the barbs on both sides of the ostrich feather have grown to equal length, whereby not only is its beauty enhanced, but it has furnished man with an emblem of the justice which leans not to one side or the other.

And for all these qualities—its power and speed, its ancient dignities, its symbolism, its majestic utterance, and its commercial value—man repays the ostrich by heaping abuse upon it and treating it with ridicule.

It has only grudgingly been permitted to consider itself a bird at all. Pliny was more than half inclined to place it among the beasts, while Aristotle dogmatically pronounced it half-and-half. Its stature, its hoof-like foot, the hard pads upon its chest, which, like those of the camel, are the result of its habit of resting with its breast against the ground, its extraordinarily human eye with the mobile upper lids and lashes, have all been

Somali Ostrich, Africa

cited as arguments for linking the "camel bird" more nearly to the quadrupeds than to the fowls. Travellers say that at a distance on the desert a troop of ostriches and one of camels are extraordinarily alike, both creatures carrying their long necks sloped at approximately the same angle and, while the camel's four legs are set close together, the two legs of the ostrich stand conspicuously wide apart. It may then have been in honest error that the ancients held the ostrich to be a mongrel thing that was neither flesh nor fowl.

But, thus having made an outcast of it, the writers of all ages need not have heaped contumely on the poor bird. Lovelace forgets his usual chivalry to apostrophize the "feathered fool" through whose "gutter-neck" snakes "hiss all the day." Spenser has a sneer for the "greedy oystriges," and Cowper:

> The ostrich, silliest of the feathered kind,
> And formed by God without a parent's mind,
> Commits her eggs incautious to the dust.

And other poets follow with the same accusation. Would they, then, have an ostrich build in trees? But for the source of the hostility to the poor fowl we must go back again to the Book of Job:

> . . . . the ostrich . . .
> Who leaveth her eggs in the earth, and warmeth them in the dust,
> And forgetteth that the foot may crush them, or that the wild beast may break them.
> She is hardened against her young ones, as though they were not hers; her labour is in vain without fear;
> Because God hath deprived her of wisdom; neither hath He imparted to her understanding.

In real life the ostrich (like that other proverbial idiot, the goose) is one of the wariest of birds and most difficult of approach. The eggs are laid in a hollow in the sand, several females using the same nest (the male bird being polygamous), round which the sand is again banked up to the height of a foot or two, one such nest having been known to contain as many as 80 eggs, though from 30 to 35 is a commoner number. As each ostrich egg is equivalent to about two dozen eggs of the villatic fowl, the possibilities of omelette in a well-furnished ostrich nest are evidently considerable. In the more tropical parts of its habitat, it is true, having covered the eggs with sand the birds leave them, at least in the daytime, that the sun may do the incubating; but as Montgomery makes a shrewd ostrich-mother retort when reproached for lack of parental feeling:

> Ah no! the mother in me knows her part;
> Yon glorious sun is warmer than my heart.

We may indeed rest assured that Nature would not allow ostrich eggs to be left to the ripening of the sun if experience had not shown that it was better for the eggs. In more temperate climates the birds do their own incubating, and while the hen ostrich possesses a normal share of the parental instinct, in the male bird it is developed in a quite unusual degree. It is the male bird that sits upon the eggs at night, while in the daytime the hens relieve each other; and the wisdom of this arrangement is apparent when it is remembered that the black and white of the male bird,

which make it conspicuous by day, do not matter at night, while in the day the brown hue of the female merges more or less completely into the tint of the desert. To such lengths does the cock ostrich carry his paternal solicitude that when individual eggs are particularly long in hatching he is said to crack them with his beak and shake the youngsters out. Later the father seems to risk his own life lightly to protect his family. Often, on the approach of an enemy, he has been known to throw himself on the ground and pretend to be crippled, like other and more familar birds in England, and even to make repeated feints of attacking a man on horseback until the young have had time to get away.

That ostriches hide their heads in the sand and think that their bodies are thereby hidden seems to be pure myth. Old birds on the nest and young birds when seeking to evade notice squat close to the ground and stretch their necks out flat upon the sand. In the case of the young, which harmonize as perfectly with their sandy surroundings as young ringed plover do with the stones upon a beach, the ruse is said to render them almost invisible; and on the wide expanses of the desert it is evident that the upright neck of a sitting bird would render it unnecessarily conspicuous to a marauding enemy. But there is no more ground for accusing the ostrich of "self-illusion" than there is for bringing the same charge against the partridge chick, which by merely sitting still among the grass practically disappears from sight.

Perhaps man would have been more courteous to the ostrich if the ostrich had insisted more punctiliously on its dignity; but it is not proud. With a finely catholic appetite, it likes coppers, and does not hesitate to beg—or swallow—pence from the humblest visitor to the Gardens, so that in course of time the bird may become a perambulating savings bank. An ostrich has been known to pick up and swallow bullets coming hot from the mould. One which died in the Zoological Gardens had by assiduity accumulated ninepence-halfpenny in coppers; and Cuvier found inside another metal odds and ends to the weight of almost a pound. Yet another is recorded to have died possessed of a silver medal and the cross of an Italian order, both of which may be assumed to have been more valuable to the original owners than to the bird, for though the ostrich may have a coat to its stomach, as a writer pointed out at the time, it can only be regarded as, at best, an indifferent surface for display.

It used to be believed that ostriches not only ate, but digested, metals and thrived on them—the "steel-digesting bird" Quarles called it. In the "Boke of Philip Sparow" we read:—

> The estridge that will eate
> A horshowe so greate
> In the steade of meate,
> Such fervent heate
> His stomake doth freat.

In heraldry the ostrich usually has a horseshoe in its mouth; and the device of Anne, Queen of Richard II.,

was an ostrich swallowing a nail, a device which her lord may or may not have regarded as complimentary to himself. But, after all, it is difficult for man to gird with any grace at the ostrich for its taste for ironmongery. No ostrich, so far as is known, has yet rivalled the exploit of that American sailor who died in a London hospital in 1809 with the whole or parts of no fewer than 35 clasp-knives inside him, "some of which were remarkably corroded and reduced in size, while others were in a tolerable state of preservation."

As an article of diet itself the ostrich under the Mosaic law was classed among the unclean fowl; but it has always been highly prized by many African tribes, and it is said that the thighs of a young ostrich make excellent meat. Heliogabalus is credited with serving at a single supper the brains of 600 of the birds; while the pseudo-Emperor Firmus claimed to have himself eaten a whole ostrich at a sitting—a feat, the miraculousness of which would depend considerably on the age of the ostrich, though even on an adult bird there is said to be little or nothing eatable, with "no flesh whatever on the keel-less breast and the thighs are all sinew."

The flesh of the ostrich, indeed, fortunately for it, can never be as valuable as its feathers; and, most ancient of birds, we may be sure that it will also, even though in captivity, be one of the last to survive, especially now that ostrich-farming has, seemingly, been proven practicable even in the inclement climate of Northern Europe.

Dead ostriches do not grow feathers: and just as certainly as man's greed will conspire with woman's vanity to exterminate the white egret, the lyre bird, the greater bird of paradise, and many another creature of beautiful plumage, so will the same motives ensure the perpetuation of the breed of ostriches. In its feathers it carries a charm to secure it immortality.

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